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Subordinate Perception of Superior Motivation and Level of Management as Determinants of Subordinate Motivation: a Systems Approach.

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SUBORDINATE PERCEPTION OF SUPERIOR
MOTIVATION AND LEVEL OF MANAGEMENT
AS DETERMINANTS OF SUBORDINATE
MOTIVATION: A SYSTEMS APPROACH.**

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Subordinate Perception of Superior
Motivation and Level of Management
As Determinants of Subordinate Motivation:
A Systems Approach

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
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Doctor of Philosophy

in

The Department of Management and Marketing

by
Maurice Michael LeBoeuf
B.S., Louisiana State University, 1966; M.B.A., 1967
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ABSTRACT

The purpose of this study was to research a phenomenon which was defined as motivation through appearing motivated. By this term is meant the extent to which a subordinate executive is motivated to achieve organizational goals by his perception of his immediate superior's motivation to achieve organizational goals. A secondary goal of the study was to determine the extent to which the level of the position held by the subordinate influences his job motivation as a result of perceiving his superior's motivation. As an aid to analysis a systems approach was used with the output of the system defined as the subordinate's motivation to achieve group goals. The process of the system was defined to be those needs of the subordinate to achieve group goals. Inputs to the system were numerous but the study focused on only one input, and this input was the subordinate's perception of the superior's motivation to achieve organizational goals.

It was hypothesized that subordinates who perceive their immediate superior as being highly job motivated would have significantly higher job motivation than did subordinates who perceived their superiors as being poorly motivated. Another major hypothesis of the study was that subordinate managers in high level positions would be more highly motivated by motivation through appearing motivated than would subordinate managers in low level positions. A minor hypothesis was also

stated that persons who perceived their superiors as average in job motivation would have more job motivation than persons who felt their superiors were poorly motivated but less job motivation than persons who felt their superiors to be highly motivated. Another minor hypothesis of the study was that high level subordinate managers who felt their superior was average or poor in job motivation would tend to follow the motivational example set by their superiors more than would low level subordinate managers.

A primary research experiment was designed for gathering behavioral data from sixty practicing executives. Fictional management cases were utilized as projective techniques. Six cases were used, three depicting a superior-subordinate relationship between high level executives, and three depicting the same relationship between low level executives. Within the two sets of cases the motivation of the superior was varied from high, to average, to poor. Each subject read one case and then answered a data sheet whose purpose was to determine how strongly he felt the subordinate in the case would be motivated. A quantitative measurement of attitude was taken using Thurstone Scales, followed by a qualitative open-end question. The quantitative scores were processed using a two-factor, fixed effects, interactive analysis of variance model. Qualitative responses were analyzed in light of the quantitative scores and secondary research in the areas of leadership and motivation.

Results of the experiment provided support for the major hypotheses but failed to support the minor hypotheses. The analysis of data supported the idea that highly motivated high level superiors, as viewed by subordinates, have the highest job motivation. However, when confronted with a poorly motivated superior case, subjects felt subordinates would generally be highly motivated with hopes of gaining the superior's position. Cases in which the superior was average in motivation gave the lowest motivational scores. This result, however, was probably due to the failure of the average motivated superior cases to gain subject involvement.

After analyzing the data, it appears that subordinate perception of superior motivation is a meaningful input in to the subordinate's motivational system to achieve organizational goals. How the subordinate reacts will be determined by the superior's motivation, the subordinate's personality make-up, and the environment in which the two interact.

Chapter I

A GENERAL INTRODUCTION TO THE STUDY

I. INTRODUCTION TO THE PROBLEM

A. Motivation Through Appearing Motivated

In the body of knowledge known today as management thought, the concepts of leadership and motivation occupy positions of paramount importance. If management is by definition the art and science of achieving objectives through individuals, then the effective manager must be a skillful leader and motivator of his followers. This study will be concerned with one very narrow aspect of leadership and motivation. This aspect will be termed motivation through appearing motivated. This term means the extent to which a subordinate is motivated to achieve organizational goals by his perception of his immediate superior's motivation to achieve organizational goals. In order to get a better grasp of the area of investigation the subject of leadership should be considered, first intuitively, and then analytically.

B. An Intuitive Look at Leadership

It has been said that the leader should be everything he wishes his subordinates to become, because men think as their leaders think and know how their leaders think.¹ This concept

¹Urwick, Lyndall F., Leadership in the Twentieth Century, Sir Isaac Pitman & Sons, Ltd., London, 1957. p.9.

of leadership by example is one that men have appeared to accept without question for centuries. A term often heard in the military services is that to be a good leader one must be a good follower. The implication is that the leader must set an example for his followers by in turn being a good follower. If one extends the concept of leadership by example to the area of motivating subordinates, an obvious conclusion is reached. If a superior wishes to motivate subordinates to achieve organizational goals, he should set an example and in turn appear motivated to achieve organizational goals. This concept is nothing more than what was previously termed motivation through appearing motivated.

C. Leadership Viewed Analytically

An intuitive look at leadership is necessary but insufficient for purposes of this type of study. It must be accompanied by an analytical view of the entire leadership system in order to place factors in their proper perspective. There are at least four major variables now known to be involved in leadership. These are: (1) the characteristics of the leader; (2) the attitudes, needs, and other personal characteristics of the followers; (3) the characteristics of the organization such as its purpose, its structure, the nature of the task to be performed; and (4) the social, economic and political milieu.²

²McGregor, Douglas, "An Analysis of Leadership," Leadership and Motivation; Essays of Douglas McGregor, The M.I.T. Press, Cambridge, Mass., 1966, p. 73.

This concept is most important because it means that leadership is not a property of the individual but a complex relationship among these variables. This brief analytical view of leadership is most relevant as it will enable the reader to better understand the purpose and scope of this study.

II. PURPOSE OF THE STUDY

This study will have the purpose of determining the extent to which a subordinate's perception of his superior's motivation in achieving group goals influences his own motivation in achieving group goals. A second purpose of the study will be to determine the impact that the level of the organization has upon this motivational relationship. Stated empirically, this study seeks to determine if high level executives are more motivated by a highly motivated superior than are low level executives.

If this study is considered from the analytical viewpoint of leadership previously discussed, then it becomes apparent that the study will involve all of the four types of variables described in the leadership situation. Obviously, the characteristics of both the leader and the follower are involved. The assumption here is that if a superior's level of motivation is sensed by a subordinate, then this gives rise to a need in the subordinate which will in turn shape his own motivational patterns. When the research seeks to determine if there is a significant difference in this motivational relationship at different levels of management, then the situational variables

are brought into the study. It should be pointed out here that the variables involved in a leadership situation are circular in nature. Characteristics of the leader or follower will have an impact upon situational variables which may in turn effect characteristics of the leader and follower.

III. ANALYSIS OF THE PROBLEM

The objectives of the study are now defined. What is now needed is a framework upon which to analyze the problem in question. In this study the systems approach will be utilized. Utilizing this approach means defining the problem or phenomenon into its component inputs, processes, and outputs. What will actually be concerned is a subsystem of the motivation to achieve organizational goals. The input will consist of the subordinate's perception of his superior's motivation to achieve organizational goals. The process involved will consist of a portion of the subordinate's psychological make-up. The function of this process will be to produce a need within the subordinate which leads to the motivation of the subordinate to achieve organizational goals. The structure involved is illustrated in Figure 1.

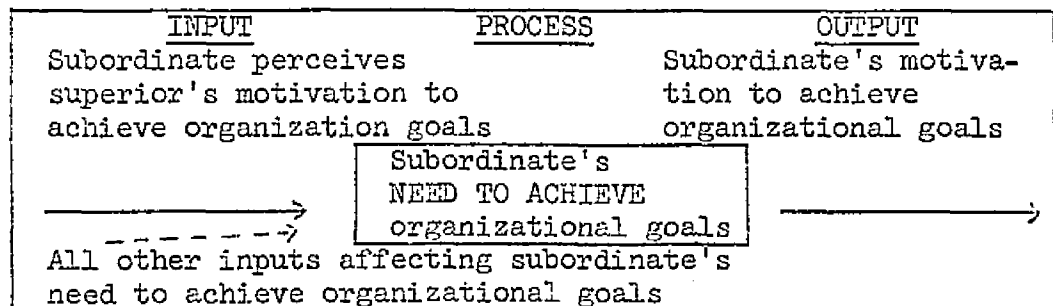


FIGURE 1. - A Systems Diagram of the Area of Study

In any given situation the motivation of a subordinate manager to achieve organizational goals will be due to a multiplicity of various factors. This study seeks to isolate one factor and determine the extent to which it influences subordinate motivation. This factor is the subordinate's perception of the superior's job motivation. Implicit in this study are several assumptions:

- (1) Organizations exist, with goals defined and understood by their members.
- (2) Within each organization is a hierarchy of managers.
- (3) Interpersonal relationships exist between subordinate managers and their immediate superiors.
- (4) From these relationships, subordinates form an opinion as to the strength of the superior's organizational motivation.
- (5) This opinion is in some way a contributing factor to the subordinate's organizational motivation.

IV. REVIEW OF THE LITERATURE

With the goals of the study and analysis of the area defined, the next order of business is a general review of the literature. This review will be broken into two major areas of thought. The first area will be concerned with the topic of systems theory. This is most relevant inasmuch as

the study will be analyzed using the systems viewpoint. The second part of the review of the literature will involve the leadership - motivation area. The area will be treated with a breadth of scope in order to give the reader a solid overview of the area being studied. A lengthy, in-depth treatment of popular theories of human motivation will be the objective of the second chapter of this study.

A. Systems Theory

Before embarking upon the study of systems theory, one point should be made explicitly clear. This point is that the true value to be gained from systems theory is its point of view. This point of view will become clear as systems theory and its various properties are discussed.

A system may be defined as an organized or complex whole; an assemblage of things or parts forming a unitary or complex whole.³ This definition is most broad in scope and has almost universal applicability. This definition reveals that almost any phenomenon may be described as a system, so long as it can be defined in terms of a unitary or complex whole and if the interrelationship of the component parts of the system can be established. Examples of systems common to the universe are, atoms, living beings, mountain systems, river systems, economic systems and even the solar system. Darwin,

³Johnson, Richard A., Kast, Fremont E., and Rosenzineig, James E., The Theory and Management of Systems, McGraw-Hill Book Company, New York, 1967, p. 4.

in his theory of evolution integrated all life into a system of nature.

General systems theory has as its objective the developing of a theoretical framework for describing general relationships of the empirical world. In actuality, the term general systems theory describes a level of theoretical model building that lies between highly abstract generalizations, such as mathematics, and lower level generalizations of specific disciplines.⁴ In the academic disciplines such a concept as general systems theory is most useful, because it bridges a gap between highly specific disciplines that have little meaning and highly general disciplines which have no content. Many academic disciplines have developed in a vacuum due to high specialization and a need has existed for a viewpoint which would tie all bodies of knowledge into an interrelated and complex whole. General systems theory is an ideal approach for fulfilling this need.

All systems are defined in general systems theory as having three basic parts. These parts are the input, the process, or operations, and the output.⁵ This is pictorially represented in the flow diagram of Figure 2.

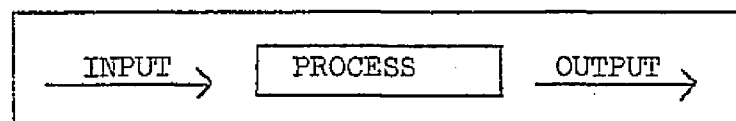


FIGURE 2. - Flow Diagram of Basic Systems Components

⁴Boulding, Kenneth E., "General Systems Theory-Skeleton of a Science," Schoderkek, Peter, Ed., Management Systems, John Wiley & Sons, Inc., New York, 1967, p. 7.

⁵Young, Stanley, Management: A Systems Analysis, Scott, Foresman and Company, Glenview, Illinois, 1966, p. 19.

Inputs are classified by their relation to the operation of the system. Inputs may be put into the following categories: those inputs which actually enter the process, environmental inputs which affect the operation of the system, component placement and replacement, material, energy, information, or any combination of these.

The second part of the system is the operations or process. This is a channel or set of interrelated components through which inputs must pass. Generally, a set of acts or objects can be said to constitute an operation if each act or object is necessary for the occurrence of a desired output, and if these acts or objects are interdependent.

The third part of the system is the output. This is simply the product or accomplishment of the system.

All systems are said to consist of subsystems. Conversely, every system is said to be a subsystem of a higher system. To demonstrate this point, consider the state of Louisiana as a system. It is a subsystem of the United States of America. The other 49 states constitute the remaining components of the system. Louisiana itself may be broken down into subsystems in the form of the various parishes. Any of these systems mentioned may be broken down into subsystems, and they are also subsystems of a higher system.

Another important aspect of general systems theory is that of open systems and closed systems. All living systems are said to be open systems. This means that they are in contact with their environment, with inputs and outputs coming

from and going to the surrounding environment. A closed system is one which has a leak-tight boundary. It is totally devoid of any contact with an external environment. All of its outputs serve as the source for all of its inputs. In reality there is no such thing as a totally closed system. However, this concept is useful in analyzing a system to determine the effect of the system upon itself while ignoring the environment.

Whenever analyzing any phenomenon from the general systems viewpoint it is necessary to specify what is inside and outside of the system. This is what is termed defining the boundary of the system. The operational definition of boundary is: the line forming a closed circle around selected variables, where there is less interchange of energy across the line of the circle than within the delimiting circle.⁶ The purpose of the boundary is to set the system apart from its environment. When studying a given phenomenon from the general systems viewpoint a boundary line is tentatively assigned, and an examination is made to see what is happening inside of the system. The purpose of the examination is to explicitly determine whether or not relevant factors are accounted for within the system. The boundary may then be redefined if it is the desire of the systems designer. This allows great flexibility in any situation, because variables left out of

⁶Bennis, Warren G., Benne, Kenneth D., and Chin, Robert, The Planning of Change, Holt, Rhinehart and Winston, Inc., New York, 1961, p. 205.

the system in the environment can be introduced into the system one or more at a time to see the effects of the variables within the system.

Any discussion of general systems theory would not be complete without mentioning Boulding's hierarchy of classifying systems. Kenneth Boulding, an economist, states that systems in the real world may be classified into a hierarchy on the basis of their complexity. Thus Boulding has created a system for classifying systems. He classifies the hierarchy into nine basic levels going from the most simple levels of systems to the most complex. Below is a brief description of each level.

- 1) The level of static structure. These systems are categorized by no movement. Geographic systems fall into this category.
- 2) The level of simple dynamic systems with predetermined, necessary motions. Most of the theoretical structure of physics, chemistry and economics falls into this category.
- 3) The level of the control mechanism or cybernetic system. The transmissions and interpretations of information is a necessary part of this type of system. This level has been nicknamed the level of the thermostat.
- 4) The level of the "open system," or self-maintaining structure. At this level are the most basic forms of living systems such as the cell.
- 5) The genetic-societal level. This level is typified

by plant life. Various cells are systematized to work towards a common output.

- 6) The "animal" level characterized by increased mobility, teleological behavior and self-awareness.
- 7) The human level considers the individual human being as a system. Being more complex than higher animals, man not only knows, but knows that he knows.
- 8) The level of human societies or organizations. This level is concerned with communications, the nature and dimensions of value systems, the transcription of image into historical record, and the complexities of human emotion.
- 9) This final level of the hierarchy is reserved for those systems which are transcendental. These systems are ultimate, absolute and unknown to man.⁷

As it was stated earlier the true value to be gained from systems theory is its point of view. This should be clear to the reader by now. It should also be clear to the reader that almost any phenomenon may be studied using this viewpoint. In this study, the concept previously defined as motivation through appearing motivated will be studied as a system. Also this system will be considered a subsystem of the subordinate's motivation to achieve organizational goals, which is in turn a subsystem of the subordinate's entire motivational system. The requirements of studying such a system demand an examination of the principles of leadership and motivation.

⁷Boulding, Kenneth E., Op.Cit., p. 13.

B. Leadership and Motivation

"Human energy is more important than money. During the last fifteen years we have learned that money cannot change the condition. It is human energy which is needed more than money. The lack of money inhibits development, but the presence of money doesn't guarantee development. We know that what is needed is the creative energy of people, and primarily of entrepreneurs, promoters and managers."⁸

The above quotation eloquently states the greatest need of modern industry today. However, to fully utilize the creative energy of persons in organizations requires that they be motivated to achieve organizational goals. Although the motivation to achieve organizational goals may come from many sources, effective leadership is the most controllable source by which persons in organizations may be motivated. To effectively discuss leadership without first laying a foundation of principles of human motivation would be at best awkward. Thus the first part of this section will briefly discuss what is known as Maslow's theory of motivation. Maslow's theory has been chosen because its basic principles may be quickly grasped and it is widely accepted in management thought.

Maslow, in his theory of human motivation advanced the following important propositions about human behavior:

- 1) Man is a wanting being - he always wants and he wants more. However, what he wants depends upon what he already has. As soon as man satisfies one

⁸Drucker, Peter, "What Have We Learned," The Personnel Administrator, Vol. 12, (May-June, 1967) p. 3.

of his needs, another takes its place. Therefore, although a need may become satiated, human needs in general cannot be.

- 2) A satisfied need is not a motivator of behavior. Only unsatisfied needs motivate behavior. A person's need for air only affects his behavior when he is deprived of air. Thus only unsatisfied needs exert any considerable force on what an individual does.
- 3) Man's needs are arranged in a series of levels - a hierarchy of importance. As soon as needs on a lower level are sufficiently satisfied, those on the next higher level will emerge and demand satisfaction.⁹

Maslow then states that there are five levels to the hierarchy of human needs. These are physical needs, safety needs, social needs, ego or esteem needs, and self-actualization needs. Physiological needs are the most basic of man's needs and govern man's motivation when he is deprived of one or more of them. Such needs are food, water, air, rest, activity, and temperature regulation. Once physical needs are satisfied, safety needs appear to motivate man's behavior. Safety needs include protection from the threat of danger, economic security, the desire for an afterlife and preference for familiar surroundings.

When an individual feels relatively secure, social needs

⁹Maslow, Abraham H., Motivation and Personality, Harper & Row Publishers, Incorporated, New York, 1954, p. 31.

become important motivators of his behavior. The individual now feels the need to belong and be accepted by his associates. If he is deprived of this need he will pursue it with the intensity of a starving man searching for food.

Esteem or ego needs are at the next level of the hierarchy. These needs are rarely satisfied to any great extent. Ego needs include the need for self confidence, for achievement and a high evaluation of one's self. Once ego needs become motivators of an individual's behavior he appears to seek almost unendingly for satisfaction of these needs.

Closely related to esteem needs are those needs for self-fulfillment or self-actualization. This is the highest category of the needs hierarchy. Such needs include the desire to realize one's potentialities and to be creative in the greatest manner possible. Self-actualization brings with it a true feeling of worth, accomplishment and satisfaction with one's self.

The needs hierarchy is a very useful tool for evaluating what motivates an individual's behavior at a given time and in a given situation. For example, the low level manager may desire to have his office carpeted or his name engraved on the door. These needs may be motivated by esteem needs. On the other hand, a corporation president may be striving to do all in his power to be an ideal president or the best president in the history of the company. He differs from the low level manager in that his esteem needs have been satisfied and he is now motivated by self-actualization needs. Due to the

fact that the two men differ with respect to their levels of personal growth, they differ in their needs. However, one final point should be made. If the corporation president is stricken by serious illness his self-actualization needs will vanish and be replaced by physical and safety needs. When an individual is deprived of several needs, the most basic of the needs motivates his behavior.¹⁰

The above principles of human motivation will greatly facilitate the following discussion of leadership. It has already been stated that leadership is a relationship of several variables. What is needed now is to pin down exactly what true leadership consists of, and which conditions in an organization will create an environment for effective leaderships.

Leadership may be divided into a dichotomy. The first type is called headship which is bestowed on an individual via the formal organization and maintained by formal authority and direction. The second and more important type of leadership is called true leadership. True leadership is that quality accorded to an individual by those who willingly accept him as a leader and follow him.¹¹ The difference between the two types of leadership lies in the fact that headship relies on formal organization structure for its

¹⁰ Ibid., p. 114.

¹¹ Holloman, Charles R., "Leadership and Headship: There is a Difference," Personnel Administration, Vol. 31, (July-August, 1968), p. 40.

success whereas true leadership relies on informal organizations for its success. The lesson to be learned from this is that appointed leaders who aspire to acceptance as true leaders must establish and maintain relationships with subordinates similar to those found in involuntary groups.

The subordinate in an organization is dependent for the satisfaction of many of his needs upon the behavior and attitude of his superiors. He must, therefore, have a feeling of confidence that he can satisfy his needs if he does what is expected of him. This will satisfy his security needs and thus open the doors to self-realization and development.

Among the conditions which influence a subordinate's feelings of security are: 1) an atmosphere of approval, 2) knowledge of what is expected of him and how well he is measuring up to these expectations, 3) forewarning changes that may affect him, and 4) consistent discipline in the form of both backing when he is right and punishment when he is wrong.¹²

The conditions under which the subordinate can realize his own potentialities include: 1) an adequate sense of security in relation to his superiors, 2) opportunities to participate in the solution of problems and in the discussion of actions which may affect him, 3) the opportunity to assume responsibility when he becomes ready for it, and 4) the right of appeal over the head of his immediate superior.¹³

¹²McGregor, Douglas, "Conditions of Effective Leadership," Leadership and Motivation; Essays of Douglas McGregor, The M.I.T. Press, Cambridge, Mass., 1966, p. 73.

¹³Ibid., p. 73.

Rensis Likert has stated very concisely those conditions which he feels are necessary to insure effective leadership in organizations. Likert's views are stated in what he terms to be the "principle of supportive relationships." The principle is as follows:

"The leadership and other processes of the organization must be such as to insure a maximum probability that in all interactions and all relationships of the organization each member will, in the light of his background values and expectations view the experience as supportive and one which builds and maintains his sense of personal worth and importance."¹⁴

The principle of supportive relationships contains within it an important clue to its effective use. To apply the principle, a superior must take into consideration the experience and expectations of each of his subordinates. Subordinates will react favorably to experiences which they feel are supportive and contribute to their sense of importance and personal wealth. Similarly, persons react unfavorably to experiences which are threatening and which decrease or minimize their sense of personal worth.

Generally, employees are motivated to work effectively by a challenging job which allows a feeling of achievement, responsibility, growth, advancement, enjoyment of work itself and earned recognition. On the other hand employees are generally dissatisfied by factors peripheral to the job such as work rules, lighting, coffee breaks, titles, wages and

¹⁴Likert, Rensis, New Patterns of Management, McGraw-Hill Book Company, New York, 1961, p. 103.

seniority rights.¹⁵ A study made of 200 engineers and accountants found the major sources of job satisfaction, in order of importance, to be achievement, recognition, work itself, responsibility, and advancement.¹⁶ The same study also found the major sources of job dissatisfaction in order of importance to be company policy and administration, supervision, salary, interpersonal relations-supervision, and working conditions.

The above study reveals one very important aspect concerning human behavior in work organizations. It was found that the greatest source of job satisfaction lies in achievement on the part of the employee. This in turn implies that employees in a job situation have a strong need to achieve goals. The organization and the employee thus will both benefit when meaningful organizational goals are set for the employee to achieve. There is great support for the idea that the need for individuals to achieve is not an inherent need, but rather a need which can be acquired and strengthened.¹⁷ It has been found that the achievement motive appears to be more prevalent in some cultures than in others. An attempt is being made to

¹⁵Myers, M. Scott, "Who Are Your Motivated Workers?", Harvard Business Review, Vol. 42, (January-February, 1964), p. 73.

¹⁶Herzberg, Frederick, Mausner, Benard, and Synderman, Barbara, The Motivation to Work, John Wiley & Sons, Inc., New York, 1959, p. 81.

¹⁷McClelland, David C., "Achievement Motivation Can Be Developed," Harvard Business Review, Vol. 43, (November-December, 1965), p. 7.

strengthen the achievement motive in less achievement-oriented cultures through educational programs. One program being applied in India stresses four major points which are: 1) goal setting, 2) language of achievement - having the individual learn to think, talk, act and perceive others like a person with a high achievement motive, 3) cognitive supports - linking the achievement motive to other goals in life to make it meaningful, and 4) group supports - the would-be achiever needs to feel emotionally as well as rationally supported in his attempts at self-change.¹⁸ Such an educational program if adapted to business organizations could be a definite asset to management and employee development.

Before concluding this review of the literature, a final study with goals somewhat similar to this one should be mentioned. The study concerned itself with the hypothesis that the nature of superior-subordinate relationships in an organization as perceived by subordinates, affects job performance. It was found that high performance in general was associated with:

- 1) Openness of communications channels between superior and subordinate
- 2) Subordinate satisfaction with superior's supportive behavior
- 3) A relatively high mutual understanding of other viewpoints and problems

¹⁸Ibid., p. 17.

- 4) A relatively high degree of local influence and autonomy on work related matters.¹⁹

C. Relating the Literature to This Study

Those items which have been previously discussed in the review of the literature are herein relevant only if they contribute to the objectives of the study. It is now necessary to relate these findings to the objectives.

The findings of systems theory provide the study with a conceptual framework for analysis. The actual system under study has been defined in Figure 1. Another look at Figure 1 after reading the principles of systems theory will make the systems diagram more meaningful. There are many inputs to the system which is defined, but only one of these inputs will be studied. It is the subordinate's perception of the superior's motivation to achieve group goals. The process of the system is defined as that part of the subordinate's psychological make-up which creates a need within him to achieve organizational goals. The output of the system is the resulting motivation of the subordinate to achieve group goals. This system is a subsystem of the subordinates total motivation system. With respect to the concept of open systems and closed systems it is very clear that the system under study is an open system. Contact with the environment is heavy, and the definition of

¹⁹Indik, Bernard P., Georgopoulos, Basil S., and Seashore, Stanley E., "Superior-Subordinate Relationships and Performance," Personnel Psychology, Vol. 14 (Winter, 1961), p. 360.

boundaries can be nebulous at best. When considering Boulding's classification of the hierarchy systems, the system under study falls into one of the highest of classifications. Inasmuch as interpersonal relationships are a large determinant of the system, one would not be totally incorrect in classifying the system into the category of human organizations. However, since only the motivation of one individual is being considered it may be more appropriate to categorize the system as belonging to the human level of systems.

The survey of the need hierarchy is most useful for purposes of this study because it points out that the process of the system being studied is a very dynamic one. The process of the system is the creation of subordinate needs to achieve organizational goals. Which inputs are successful at a given point in time in creating the need will be determined in large part by previously satisfied needs.

The concepts of headship and leadership will be useful in this study also. When a subordinate becomes motivated by a highly motivated superior, this phenomenon is more true leadership than headship. The formal organization only creates the structural relationship between superior and subordinate. The motivation of the subordinate is a function of informal recognition and respect for his superior.

The principle of supportive relationships ties into the study nicely, because it emphasizes that these relationships create an environment for meaningful achievement on the part of subordinates. Achievement motivation by subordinates is

not only necessary and desirable from the organization's viewpoint, but can be the greatest source of job satisfaction for the subordinate as well.

The final study mentioned in the review of the literature stated that the nature of subordinate perceptions of the superior-subordinate relationship affect job performance. In a sense that study lays the groundwork for the study about to be undertaken herein. This study will be concerned with a narrow aspect of how the subordinate's perception of the superior affects his job motivation and consequently his job performance.

V. STATEMENT OF HYPOTHESES

The review of the literature provides the necessary background to understand the concepts with which this study will seek to pursue. The next necessary ingredient of a study of this nature is to formally state the hypotheses which are to be investigated. The hypotheses are four in number, two of them being major hypotheses and two of them being minor hypotheses. They are as follows:

Major Hypothesis 1: Subordinates who perceive their immediate superiors as highly motivated to achieve organizational goals have significantly higher motivation to achieve organizational goals than do subordinates who perceive their superiors as being poorly motivated.

Minor Hypothesis 1: Subordinates who perceive their superiors as somewhat average in motivation to achieve organizational goals will be more significantly motivated to achieve organizational goals than subordinates who perceive their superiors to be poorly motivated, but significantly less motivated than a subordinate who perceives his superior as highly motivated.

Major Hypothesis 2: Subordinate managers in high level positions will be more highly motivated by perceiving their superiors as highly motivated than will subordinate managers in low level positions.

Minor Hypothesis 2: Subordinate managers in high level positions who perceive their immediate superiors as either average or poorly motivated to achieve organizational goals will tend to follow the motivational example set by their superiors in their own personal motivation more than subordinate managers in low level positions.

VI. PRIMARY RESEARCH METHODOLOGY

A. The Nature and Objectives of the Experiment

With the hypotheses of the study set out, a primary research experiment has been developed which will provide

information upon which the hypotheses may be either supported or refuted. Upon close examination the reader will find that there are two independent variables in the study: 1) the level of the superior's motivation to achieve organizational goals as perceived by the subordinate, and 2) the subordinate's position in the managerial hierarchy with respect to his being either a high level or low level manager. The dependent variable will be the subordinate's motivation to achieve organizational goals. The purpose of the experiment will be to determine if the independent variables affect the dependent variable in the various combinations of ways which were stated in the hypotheses.

B. Design of the Experiment

The method used to gather empirical data for this study is unique in concept. The concept is to utilize management cases as projective techniques for gathering behavioral data for the study. Psychologists have for many years used various projective devices and considered them quite useful. The basic assumption of the projective technique is that when an individual is asked to interpret or preduct a given situation, he will identify with the situation and project his own feelings, desires, and wishes into his interpretation of the situation.²⁰

²⁰Kimble, Gregory, and Garnezy, Norman, Principles of General Psychology, The Ronald Press Company, New York, 1963, p. 92.

In this experiment six management cases have been written to serve as projective techniques. All cases are the same except in each case the independent variables are varied in varying combinations. The six cases describe the following situations:

Case 1A - Describes a situation where a high level executive has an immediate superior who is very highly motivated in achieving organizational goals.

Case 1B - In this case the subordinate is a high level executive, and his superior demonstrates neither extremely strong nor weak motivation toward achieving organizational goals.

Case 1C - Once again the subordinate is a high level executive but his superior is very poorly motivated to achieve organizational goals.

Case 2A - The subordinate is a low level manager whose superior is very highly motivated to achieve group goals.

Case 2B - The subordinate is a low level manager, and his superior demonstrates neither extremely strong nor weak motivation toward achieving organizational goals.

Case 2C - The subordinate is a low level manager whose superior is very poorly motivated to achieve organizational goals.

The sample is to consist of a total of sixty men holding administrative positions in industry. Each subject will have one case randomly assigned to him. Since there are six cases, each case will be read by ten subjects. All subjects will

read their respective cases at the same time. Attached to each case will be a data collection form. Not all subjects read the same case, but all subjects receive the same form to answer.

C. Design of the Data Collection Form

The data collection form used will gather information which can be analyzed both quantitatively and qualitatively. The form designed is a combination of the Thurstone Attitude Form and an open-end questionnaire.

The Thurstone part of the data collection form consists of twenty-two statements. Each statement has been designed and judged to describe the motivational strength of the subordinate in the case to do his job.²¹ The statements describe subordinate motivational strength varying from extremely strong motivation to extremely weak motivation. Each statement has a scale value attached to it. The statement describing the highest level of subordinate motivation has a value of 22, and the statement describing the poorest level of subordinate motivation has a value of 1. Subjects will be asked to indicate which statements they feel accurately describe the motivation of the subordinate in the case. The mean value of those statements which the subject believes accurately describes the subordinate's motivational attitudes

²¹For an explanation of the uses, assumptions, and techniques of the Thurstone Method see; Boyd, Harper W. Jr., and Westfall, Ralph, Marketing Research Text and Cases, Rev. Ed., Richard D. Irwin, Inc., Homewood, Illinois, 1966, pp. 329-331., or Thurstone, L.L., and Chave, E.J., The Measurement of Attitude, The University of Chicago Press, Chicago, Illinois, 1929, 96 p.

will be recorded as his score for the experiment. For example, a subject, who after reading a case believes the subordinate will be highly motivated should agree to statements which would have a rating of anywhere from 16 to 22. On the other hand, if after reading the case the subject believes the subordinate would be poorly motivated he would tend to agree with statements with lower values representing poor motivation on the part of the subordinate. Using this technique a quantitative measure of how the subject believes the subordinate will be motivated may be obtained. This facilitates statistical analysis.

For qualitative analysis each subject will be asked one open-end question. He will be asked to state briefly any effects he feels the superior in the case will have on the subordinate's job motivation. These statements cause the subject to clearly formulate his attitudes concerning the motivation of the case subordinate. Assuming that a subject has definite ideas on how he feels the subordinate will be motivated, then the open-end question should explain why the score on the Thurstone form is either high, average, or low.

D. How the Data Will Be Analyzed

The experimental design utilized is a two factor, fixed effects, interactive model with a randomized block design.²²

²²A discussion of this type of experimental design may be found in: Frank, Ronald E., and Green, Paul E., Quantitative Methods in Marketing, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1967, pp. 31-53.

Scores from each of the six cases will be grouped together and placed in a matrix type of arrangement as depicted in Figure 3.

| LEVEL OF MANAGEMENT OF SUBORDINATE | | LEVEL OF SUPERIOR'S MOTIVATION | | |
|------------------------------------|---------------------|--------------------------------|---------------------|-----|
| | | HIGH | AVERAGE | LOW |
| High | Scores from Case 1A | Scores from Case 1B | Scores from Case 1C | |
| Low | Scores from Case 2A | Scores from Case 2B | Scores from Case 2C | |

FIGURE 3. - Block Design for Processing Scores

The two major hypotheses can be statistically tested using a two-factor, interactive analysis of variance model with ten observations per cell.²³ In essence, this analysis will reveal whether or not there are statistically significant differences between motivational scores on the different cases. If the differences are significant, and one accepts the assumptions of the projective technique, then the major hypotheses will be statistically validated.

The qualitative data from the open-end question will serve to supplement the Thurstone form. Whereas the Thurstone interval scale should tell what the quantitative results are,

²³A summary of this technique may be found in: Freund, John E., Livermore, Paul E., and Miller, Irwin, Manual of Experimental Statistics, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1960, pp. 63-69.

the answers to the open-end question should help to explain the scores. These projective answers also serve to validate the scale scores.

E. Validation of Cases

Before administering the experiment it is necessary that the cases be validated to insure that the motivation of the superior's in each case is perceived by subjects as it was designed to be perceived, and that the levels of management of each case be perceived as intended. To do this cases were grouped by descending levels of management and descending levels of motivation of the superior. The groups of cases were given to graduate students and they were asked to rank cases as to the superior's level of motivation or the level of management of the subordinate's job. In all instances the factors were perceived and ranked as they were designed to be.

VII. A LOOK AT WHAT IS TO FOLLOW

There are three additional chapters to follow in this study. In Chapter 2 the bulk of the secondary research will be contained. This chapter will explore various theories and concepts of human motivation which are considered to be valid explanations of human behavior. After exploring these theories, an attempt will be made to tie them into a meaningful framework where they may be used to evaluate the phenomenon being studied. Chapter 3 will be devoted to an analysis of the primary research data taken in the experiment previously discussed. It should

again be pointed out that this analysis will be both quantitative and qualitative in nature. Assuming the research design to be a sound one, analysis of both types of data should be complementary. The fourth and final chapter of the study will attempt to reach conclusions about the subject in question. In this chapter the results of the primary and secondary research efforts will be tied together with the hope that this study will result in a significant and meaningful contribution to management thought.

Chapter II

CONCEPTS AND THEORIES OF HUMAN MOTIVATION

I. AN ORIENTATION TO THE AREA OF MOTIVATION

A. Defining Motivation

The study of human motivation has to do with analysis of the various factors which incite and direct an individual's actions. Motivation has been aptly termed the study of how and why behavior gets started, energized, sustained, directed, and stopped - and what kind of subjective reaction is present in the individual while all of this is going on.¹ The basic property of motives is the energization of behavior. This idea leads to distinction between behavior set by motivation and behavior set by limits of human capacity. Depending upon the level of motivation the performance may be at any level up to the limit set by capacity.

Motivation is classified as an intervening variable by psychologists. In essence, this means that motivation is the variable which separates human drive from human behavior. Variables which effect human drives are such things as stimulation, deprivation and learning. These variables precede motivation. Variables classified as human behavior are preceded by motivation.

¹Atkinson, John W., An Introduction to Motivation, D. Van Nostrand Company, Inc., New York, 1964, p. 1.

The field of knowledge known as motivation is beset with definitional problems. In order to provide clarity from the beginning it is necessary to distinguish between drives and needs. Drives refer to behavioral manifestations; whereas needs are the underlying physiological or psychological lacks or excesses which are responsible for the manifestation.

Often, the concept of instinct creeps in the literature on motivation as an explanation to describe behavior. This poses a definitional problem also. Here it is important to recognize that the term instinct is used today to refer to certain behavior in lower animals only.² Psychologists believe instinct has no place in human motivation, and does not apply to such human motives as gregariousness or the need for prestige.

B. The Scope of Motivation

The area of human motivation is so highly complex and so difficult that, theoretically, the entire field of human behavior could be included under this heading. There are a number of reasons why the study of human motivations is so complex and so difficult. First, motivation is more concerned with the "why" rather than with the "how" of human behavior. Its problem is one of explanation and causation, not simply one of description. Second, motivation when studied cannot be divorced or separated from its environment. It is always a total individual in a

²Kimble, Gregory and Garnezy, Norman, Principles of General Psychology, The Ronald Press Company, New York, 1963, p. 404.

social environment that responds or reacts, not just one segment of it. Third, motives can only be inferred from behavior; they are not directly observable. For example, many people may exhibit very similar behavior, but the underlying motives of each may be quite unique. Conversely, many individuals with quite similar motives may express them in very different ways. Fourth, the "why" of a specific act may be due primarily to physiological factors, or to social factors or more often to the interaction of the two. Very often it is difficult to differentiate the relative significance of these determinants.

Although there appears to be some vagueness on the part of psychologists as to what is the scope of motivational theory, analysis of the various approaches reveals a good deal of agreement. For example, psychologists no longer accept the instinct theory but instead recognize the importance of such areas as: a) need theories of motivation which recognize the importance physiological and social or learned needs, b) conscious and unconscious motives, c) defense mechanisms such as projection, repression and rationalization in explaining motivation, and d) the importance of environmental determinants. They also agree that the problem of human motivation is highly complex and that practically all human behavior is motivated.

C. The Organizational Plan of this Chapter

Each of the following sections of this chapter will be devoted to describing theories and concepts of motivation which are considered by psychologists to be major contributions. In

the review of the literature, an introduction to motivational theory was presented in briefly describing Maslow's theory of motivation. The first section of this chapter will be concerned with describing so-called need theories of motivation. The ideas of Maslow and his followers will be described in more detail with emphasis upon the assumptions of their theories. This makes an excellent starting point, because most work in the management area on motivation is based on the need theories.

The next section will discuss Lewin's theory of motivation. This theory is characterized by an emphasis on the environment as a determinant of motivation. The following section will deal with Stimulus-Response theory and its relationships to motivation. Psychologists have in the past attempted to explain all behavior in terms of the stimulus-response phenomenon. This is closely related to motivation inasmuch as psychologists believe practically all behavior is motivated.

Theories and concepts of unconscious motives will be covered in the subsequent section. Psychologists today believe these concepts are relevant, partial explanations of determinants of behavior. Defense mechanisms and motivation will be discussed in the next section. Defense mechanisms are behavioral products of conscious and unconscious motives, and are a relevant concept to the study of motivation.

Finally, theories of achievement motivation will be discussed. This study is concerned with subordinate motivation to achieve organizational goals, and the area of achievement motivation is the specific area of motivation which this study

seeks to investigate. A summary section will conclude the chapter and attempt to relate the relevant findings of the secondary research to the objectives of this study.

II. NEED THEORIES OF MOTIVATION

Inasmuch as Maslow is the best known spokesman of the need theory approach to human motivation, it is only fitting that this section center on his work. Maslow's theory of motivation is often quoted and used as a very simple, structured approach to understanding human motivation. Often Maslow has been criticized for attempting to over-simplify human behavior with his theory of motivation. The truth of the matter is that Maslow did not over-simplify, but rather that users of his theory of motivation do not explain or know the foundations upon which his theory of motivation is based. Before explaining his theory of motivation, Maslow presented propositions which he felt must be included along with his theory in order to make it definitive. These propositions may be briefly summarized as follows:

1. The integrated wholeness of the organism must be one of the foundation stones of motivation theory.
2. The hunger drive or any other physiological drive is rejected as a centering point or model for a definitive theory of motivation. Any drive that is somatically based and localizable is assumed to be atypical rather than typical in human motivation.
3. A theory of motivation should stress and center itself

upon ultimate or basic goals rather than partial or superficial ones, upon ends rather than means to those ends. Such a stress would imply a more central place for unconscious rather than conscious motivations.

4. There are usually available various paths to the same goal. Therefore conscious, specific, desires are not as fundamental in motivation theory as the more basic, unconscious goals.

5. Any motivated behavior, either preparatory or consummatory, must be understood to be a channel through which many basic needs may be simultaneously expressed or satisfied. Typically, an act has more than one motivation.

6. Practically all organismic states are to be understood as motivated and motivating.

7. Human needs arrange themselves in hierarchies of prepotency. That is the appearance of one need usually rests on the prior satisfaction of another more prepotent need. Therefore, man is a perpetually wanting animal, but what he wants depends upon what he has.

8. Lists of drives will get one no place for various theoretical and practical reasons. Any classification of motivation must deal with the problem of levels of specificity or generalization of the motives to be classified.

9. Classifications of motivations must be based upon goals rather than upon instigating drives or motivated behavior.

10. Motivation theory should be human-centered rather

than animal centered.

11. The situation or field in which the organism reacts must be taken into account but the field alone can rarely serve as an exclusive explanation for behavior. Furthermore, the field itself must be interpreted in the organism's terms. Field theory cannot be a substitute for motivation theory.

12. Not only must the integration of the organism be taken into account, but also the possibility of isolated, specific, partial or segmented reactions.

13. Motivation theory is not synonymous with behavior theory. The motivations are only one class of determinants of behavior. While behavior is almost always motivated, it is also almost always biologically, culturally and situationally determined as well.³

After stating these propositions, Maslow formulated his theory of motivation and discussed the theory in terms of the levels of the need hierarchy.

A. Physiological Needs

The physiological needs are taken as the starting point for the need theories of motivation. Physiological needs are considered by some to be the most important of all needs. What this means specifically is that in the human being who is missing everything in life in an extreme fashion, it is most likely that the major motivation would be from physiological needs rather than other types of needs. A person who is lacking food, safety, love and esteem would most

³Maslow, Abraham H., "A Dynamic Theory of Human Motivation," Psychological Review, Vol. 50, 1943, p. 370.

probably hunger for food more strongly than for anything else. Physiological needs are relatively independent of each other, of other motivations, and of the organism as a whole.

Any of the physiological needs and the consummatory behavior involved with them serve as channels for all sorts of other needs as well. Thus the person who thinks he is hungry may be actually seeking more food for comfort, or dependance, rather than for vitamins or proteins. On the other hand, it is possible to satisfy the hunger in part by other activities such as drinking water or smoking cigarettes.

If all needs are unsatisfied and the organism is dominated by physiological needs, all other needs become simply nonexistent or are pushed into the background. The organism may be then characterized simply by saying that it is a hungry one. All consciousness is almost completely preempted by hunger; all capacities are put into the service of hunger satisfaction, and their organization is almost entirely determined by the single purpose of satisfying hunger. The individual's reception and effectors, memory, intelligence and habits are all utilized as hunger-gratifying tools. Capacities not useful for this purpose lie dormant, or are pushed into the background. The urge to write poetry, to acquire an automobile, or to study is in the extreme case forgotten or pushed into the background. For the man who is extremely hungry, no other interest exists but food. He dreams food, he remembers food, he thinks about food, he speaks only about food, he perceives only food, and he wants only food.

Another strange characteristic of the human organism when it is dominated by a certain need is that the whole philosophy of the future tends also to change. For the chronically and extremely hungry man, Utopia is defined as a place where there is plenty of food. He tends to think, that if only he is guaranteed food for the rest of his life, he will be perfectly happy and will want nothing more, ever again. Life itself is deprived in terms of eating, and anything else will be defined as unimportant. Freedom, love, community feeling, respect, and philosophy may all be waived aside as useless frills since they fail to fill the stomach. It can be fairly said that man lives by bread alone when there is no bread.

The next obvious question is what happens to man's desires when there is plenty of bread? According to Maslow, higher needs emerge and these, rather than physiological hungers, dominate the organism. When the emerging needs are satisfied, again new needs emerge and so on. This is what Maslow meant when he stated that human needs are organized into a hierarchy of relative prepotency.

One main implication of the concept of the need hierarchy is that gratification becomes as important a concept as deprivation in motivation theory. Instead of assuming that deprivation is the only instigation, one must recognize that gratification is in a matter of speaking an instigation also. Gratification releases the organism from the domination of a relatively lower level need, thus permitting the emergence of

higher order needs. Satisfied lower level needs exist only in a potential fashion in the sense that they may again dominate the organism if they are thwarted. One must remember that a satisfied want is no longer a want and the organism is dominated and its behavior organized by unsatisfied needs. If hunger is satisfied, it becomes unimportant in the current dynamics of the individual.

B. Safety Needs

If physiological needs are relatively well gratified, then there emerges a new set of needs which may roughly be categorized as safety needs. All that has been said of physiological needs is equally true about safety needs, although the desires exist to a somewhat lesser degree. The organism may well be wholly dominated by them, thus turning an individual into little more than a safety-seeking mechanism. Human intellect and other capacities turn into safety-seeking tools. Just as with the hungry man the dominating need is a strong determinant of this current outlook and philosophy of the future. Practically everything will appear less important than safety.

Although this study is concerned primarily with adults, it is easier to approach an understanding of human safety needs by observing the behavior of infants and children. In children safety needs are more simple and obvious. One reason for the clearer appearance of the threat or danger reactions in infants is that they do not inhibit this reaction at all, whereas

adults in this society are taught to inhibit such reactions at all costs. When adults do feel their safety is threatened one may not be able to see this on the surface. Small children will react in a total fashion if they are endangered, disturbed, dropped suddenly, startled or exposed to unusual sensory stimulation. Children react directly also to pain which they may feel is a threat to their security. When a small child is struck by pain his world changes from one of sunshine to darkness and a place where the once stable environment appears totally unstable.

A large part of safety needs includes the need for a predictable, orderly world with a kind of daily undisrupted routine or rhythm. For instance, young children seem to thrive better under a system which has a routine that can be counted upon, not only for the present, but far into the future.

The healthy, normal adult in this society is largely satisfied in his safety needs. Our society is such that it is stable, smooth running and well organized. Therefore, in most cases today safety needs are not active motivators of behavior. Attempts to seek safety and stability may be seen in the very common preference for the familiar rather than the unknown. The search for an after life is another common example of men seeking to satisfy a safety need.

Among mentally unhealthy individuals certain types of neurosis are characterized with an excessive attempt to satisfy safety needs. The neurosis in which the search for safety takes its clearest form is in the compulsive-obsessive neurosis.

Compulsive-obsessives try frantically to order and stabilize the world so that no unmanageable, unexpected, or unfamiliar dangers will ever appear.⁴ They surround themselves with all sorts of ceremonials, rules and formulas so that every possible contingency may be provided for and so that no new contingencies may appear. They try to arrange the world so that anything unexpected cannot possibly occur. If, through no fault of their own, something does occur, they go into a panic reaction as if this unexpected occurrence constituted a terrific danger. The personal preference for the familiar in the healthy person becomes a life-and-death necessity for the abnormal person.

C. Social or Love Needs

If both physiological and safety needs are fairly well gratified, then there will emerge the love and affection belongingness needs, and the cycle previously described will repeat itself with this new center. Social or love needs are characterized by a person's keenly feeling the absence of friends, a sweetheart or a wife, or children. He will hunger for affectionate relations with people in general, for a place in his group, and will strive with great intensity to achieve these goals. He will want these more than anything else in the world and may even forget that he once sneered at love when he was acutely hungry or in need of safety.

In our society, the thwarting of these needs is the most

⁴Kimble, Gregory A., and Garnezy, Norman, Principles of General Psychology, the Ronald Press Company, New York, 1963, p. 530.

commonly found cause in cases of maladjustment and more severe psychopathology.⁵ Our society is one in which love, affection, and their possible expression are generally looked upon with ambivalence and are customarily hedged about with many restrictions and inhibitions. Practically all theorists of psychopathology have stressed thwarting of the love needs as basic in the picture of maladjustment.

Very often confusion exists as to distinguishing between love needs and other needs. Esteem needs and safety needs are often confused as being love needs and certain love needs are often thought to be either safety needs or esteem needs. Thus it is necessary to determine which needs are love needs in order to set them apart from the other levels of the hierarchy. One type of love need is the need for affectional or love relationships with other individuals. This expresses itself in our society mostly between sweethearts and married people, between parents and children, and between very close friends. The second type of love need is the desire for belongingness. It is necessary for persons not only to have close love relationships with one or two or three people but to have more diffuse relationships with a wide number of other people. Such a need is demonstrated in the desire to be a practicing, functioning accepted member of a given group. The thwarting of the first type of love need is called rejection whereas the thwarting of the second type is called isolation.

⁵Maslow, Op. cit., p. 378.

D. Esteem Needs

Most individuals have a need or desire for a stable, firmly based, high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others. Firmly based self-esteem is that which is soundly based upon real capacity, achievement, and respect from others. Esteem needs may be classified into two categories. The first category includes the desire for strength, for achievement, for adequacy, for confidence, and for independence and freedom. The second category includes the desire for reputation or prestige, recognition, attention, importance or appreciation.

Satisfaction of the self-esteem need leads to feelings of self-confidence, worth, strength, capability and adequacy of being useful and necessary in the world. However, thwarting of these needs produces feelings of inferiority, of weakness and of helplessness. These feelings will in turn give use to either basic discouragement or else compensatory or neurotic trends.

E. Self-Actualization Needs

If all of the above needs are satisfied one can still expect that a new discontent and restlessness will develop. This discontentment will appear unless the individual is doing what he is fitted for and what his talents allow him to do. What a man can be he must be. A musician must make music, an artist must paint, and a poet must write if he is ultimately to be happy. This need is what is termed self-actualization.

Self-actualizing individuals are motivated in higher ways called "meta-motivations."⁶ All such people are devoted to some task, call, vocation, or beloved work outside themselves. The dichotomy between work and play is transcended. Wages, hobbies, and vocations must be defined at a higher level. Such vocation-loving individuals tend to identify with their work and to make it into a defining characteristic of the self. Less involved persons, in contrast, seem to use their work more often as a means for achieving gratification of lower basic needs, neurotic needs, or as a result of cultural expectations. To these persons work is a more of a means to an end whereas the self-actualizing individual views his vocational tasks as more of an end in itself from which he satisfies this high order need.

The clear emergence of self-actualization needs rests upon prior satisfaction of the physiological, safety, love and esteem needs. From self-actualizing individuals one should expect the fullest and healthiest creativeness.

F. Cognitive Needs

The physiological, safety, love, esteem, and self-actualization needs form what Maslow has termed the need hierarchy of individuals. As an adjunct to these needs Maslow considers cognitive capacities (perception, intellect, learning)

⁶Maslow, Abraham H., "A Theory of Metamotivation: The Biological Rooting of the Value-Life," Journal of Humanistic Psychology, Vol. 7 (Fall, 1967), p. 93.

as sets of adjustive tools, which have, among other functions, the satisfaction of our basic needs. Any blocking or deprivation of the cognitive processes is an indirect threat to the basic human needs. Thus, Maslow considers the desires to know and understand as cognitive needs which while not being part of the need hierarchy are part of a mechanism which works toward satisfying needs in the need hierarchy.

Acquiring knowledge and systematizing the universe have been considered in part as techniques for the achievement of basic safety in the world or for the intelligent man, expressions of self-actualization. Thus it is conceivable that the needs to know and understand may contribute toward satisfying any level of the need hierarchy. It well appears that the desires to know and understand are perhaps in a hierarchy which parallels the traditional hierarchy. Certainly these needs appear to be insatiable. After man knows, he is impelled to know more and more minutely and microscopically on one hand and more extensively in the direction of world philosophy and religion on the other hand. If one accepts the assumption that there are needs to know and understand, then a small hierarchy is seen to exist where the desire to know is prepotent to the desire to understand.

G. The Need to Do

Some psychologists have felt that one of man's basic needs is the need to do.⁷ The human need to do is the need to make changes

⁷Feibleman, James K., Mankind Behaving, Charles C. Thomas Publishers, Springfield, Illinois, 1963, p. 25.

in the environment. It includes everything from spontaneous activity to the carefully planned explorations of outer space. The need to do supplements the needs of the need hierarchy and is really included as a necessary component of each of them. The need to do is that need which finds its outlet expressed in the generalized desire of aggression.

There are many varieties of the need to do. In human society it is often the need that seems to motivate the human individual once his primary needs have been attended to. A few of the more prominent forms of the need to do should be discussed at this point to acquaint the reader with their nature and extent.

The need for activity, for achievement, often takes the form of the need for social approval, political power, and capital accumulation.

The need for social approval is in a sense a familiar form of aggression. It requires from others an attitude in which the approval carries with it some seal of endorsement or superiority. Social approval is not merely equality or belonging to the individual who seeks it. In seeking social approval, the individual is through his actions, or his achievements, in a sense compelling others to acknowledge his superiority. This is a variety of aggression.

The need for political power is a more obvious form of aggressive activity. The political leader dominates the society in which he moves. It is in effect power over other individuals and their goods which is the most aggressive form

of activity so far as society is concerned.

A somewhat more subtle form of aggression is the need for capital accumulation. The possession of material means has been in many societies the dominant motive behind the self-conscious activities of the individual. In practically all societies the man of wealth can to the extent of his wealth control the individuals and the goods of his society.

Aggression is constructive when it is serving other drives and destructive when operating alone. Humans have the need to do something. If they don't, muscles deteriorate, and whatever deteriorates in the organism hurts the whole organism to that extent. When aggression turns wild, it interferes with the need-reduction of the other drives. When it is harnessed to their service, it can express itself constructively. The need to dominate the environment is never indifferent to the other needs. The need to do is never a neutral one. It either works to further the need reductions of other needs or to block such need reductions.

H. Further Characteristics of the Basic Need Hierarchy

In discussing the basic needs of Maslow's hierarchy, there are several characteristics regarding these needs which warrant further discussion.

Previously, the need hierarchy was presented as if it is always of a definite fixed order, but in reality it may not be nearly so rigid as has been implied. It is true most persons seem to have these basic needs in about the order that

has been indicated. However, there are a considerable number of exceptions. There are some people in whom self-esteem seems to be more important than love. This common reversal in the hierarchy is most commonly due to the development of the notion that the person who is most likely to be loved is a strong or powerful person, one who inspires respect or fear, and who is self-confident or aggressive. Therefore such people who lack love and seek it, may try hard to put on a front of aggressive, confident behavior. However, essentially they seek high self-esteem and their behavior expressions are more means to an end than for its own sake. They seek self-esteem to satisfy love needs rather than self-esteem needs.

There are people in whom the drive to creativeness seems to be most prepotent. Consider writers, artists and poets who appear to live often at mere subsistence in order that they may spend time in their creative endeavors.

In certain persons the level of aspiration may be permanently deadened or lowered. Less prepotent goals may be lost and disappear forever, so that a person who has experienced life at a very low level may continue to be satisfied for the rest of his life if only he can get enough food.

Another cause of reversal in the hierarchy is when an individual has had a need satisfied for a long time and this need may be underevaluated. For example, persons who have never experienced chronic hunger, are apt to underestimate its effects and look upon food as a rather unimportant thing. If they are dominated by a higher need, this higher need will appear to be

the most important of all. It then becomes possible that they may for the sake of this higher need put themselves into the position of being deprived of a more basic need.

Perhaps the most important causes of reversals in the need hierarchy are the ones that involve ideals, high social standards and high values. There are the people who become martyrs and will give up everything for the sake of a particular ideal or value. Behavior of these types of persons may be understood in part through a concept which has been referred to as "increased frustration" -- tolerance through early gratification. People who have been satisfied in their basic needs throughout their lives seem to develop exceptional power to withstand present or future thwarting of these needs simply because they have strong, healthy character structure as a result of basic satisfaction. There are strong individuals who easily weather disagreement, opposition or who can stand up for the truth at great personal cost. It is those who have loved, and been well-loved, and who have had many deep friendships who can hold out against hatred, rejection or persecution.

Thus far, the description of the five levels of the need hierarchy may have given the impression that these needs are in a step-wise, all-or-none relationship to each other. It has been said if one need is satisfied, then another emerges. This may give the false impression that a need must be satisfied 100% before the next need emerges. In fact, most normal persons of our society are partially satisfied in all

of their basic needs at the same time. For example, it is conceivable that at a given point in time an individual may be 85% satisfied in his physiological needs, 70% in his safety needs, 50% in his love needs, 40% in his self-esteem needs, and 10% in his self-actualization needs.

Needs are neither necessarily conscious or unconscious. However, psychologists feel that generally needs are more unconscious than conscious.

Another point which must be mentioned is that any given behavior may be motivated by several given sets of needs. It is possible to theoretically analyze a single act of an individual and see it in an expression of his physiological, safety, social, esteem, and self-actualization needs. This contrasts sharply with trait psychology in which one trait or motive accounts for a certain type of act.

One must also remember that not all behavior is determined by basic needs. In fact one might even say that not all behavior is motivated. There are other determinants of behavior besides motives. One important example would be what is known as field determinants. Theoretically, behavior may be determined by a field of isolated, specific, external stimuli.

I. Higher and Lower Needs

In an article which came out sometime after his initial presentation of the need hierarchy, Maslow attempted to show that there are "real" psychological and operational differences

between those needs called "higher" and those called "lower." As one moves from lower to higher needs certain observable trends may be noticed. These phenomenon are summarized below:

1) The higher need is an evolutionary development. Man shares the need for food with all living things, the need for love with (perhaps) the higher apes, and the need for self-actualization with nobody. The higher the need the more human it is.

2) Higher needs are developed with age. Any individual at birth has only physiological needs and chaotic safety needs. Only after months does an infant show signs of interpersonal ties and affection. As for self-actualization, even a Mozart had to wait until he was three or four.

3) The higher the need the less imperative it is for sheer survival, the longer gratification can be postponed, and the easier it is for the need to disappear permanently.

4) Living at a higher need level means greater biological efficiency, greater longevity, less disease and better sleep and appetite.

5) Higher needs are less urgent subjectively. They are less perceptible, more easily confounded with other needs by suggestion, imitation, by mistaken belief or habit. To be able to recognize one's own needs is a considerable psychological achievement. This is doubly true for the higher needs.

6) Higher need gratifications produce more desirable subjective results, i.e., more profound happiness, serenity and richness of the inner life.

7) Pursuit and gratification of higher needs represents a general healthward trend, a trend away from psychopathology.

8) The higher need has more pre-conditions. This is true if only because prepotent needs must be gratified before it can be.

9) Higher needs require better outside conditions to make them possible.

10) A greater value is usually placed upon the higher need than upon the lower by those who have been chronically gratified in both.

11) The higher the need, the wider is the circle of love identification, i.e., the greater is the number of people love-identified with, and the greater is the average degree of love-identification.

12) The pursuit and the gratification of the higher needs have desirable civic and social consequences. The higher the need the less selfish it must be. Hunger is highly egocentric and the only way to satisfy it is to satisfy one's self. But the search for love and respect necessarily involves other people.

13) Satisfaction of higher needs is closer to self-actualization than is lower need satisfaction. Among other things this means that one may expect to find in people living at the higher need level, a larger number and greater degree of the qualities found in self-actualizing people.

14) The pursuit and gratification of the higher needs leads to greater, stronger, and truer individualism. People

living at the level of self-actualization are found simultaneously to love mankind most and to be the most developed idiosyntrically.⁸

III. LEWIN'S THEORY

Kurt Lewin was a German born psychologist whose theory on motivation is well-known and accepted today as a relevant contribution to psychology. The content of Lewin's theory of motivation may be summarized as follows:

The behavior of an individual (B) will always be a function (F) of the total situation, the life space (L sp.), consisting of both the condition of the individual (P) and the environment (E), factors which are closely interdependent. This can be formulated as $B = F (L \text{ sp.}) = F (P, E)$.

In order to explain or predict the behavior of an individual it is thus necessary to know the life space at the given moment and the hypotheses which formulate the functional relationship between the life space and the behavior.

In Lewin's theory the individual is defined as a system consisting of an internal central region and an external peripheric (perceptual and motor) region. These regions can be differentiated into a number of regions and their boundaries can be more or less clearly defined. A state of tension in an internal region corresponds to a need in the organism.

⁸Maslow, Abraham H., "Higher and Lower Needs," The Journal Psychology, Vol. 25, 1948, p. 436.

The environment is characterized by its cognitive structure, the position of the individual, and the distribution of the forces in the life space. The cognitive structure is partly differentiated into psychological past, present, and future and partly into two or more levels of reality (for example the activity-level and the day-dreaming level). Orientation, learning, and insight can be described as changes in the cognitive structure of the life space. The position of the individual in the life space is very important; it is especially important to find its position in relation to goal-regions, because this together with other things determines the direction of the behavior. A goal-region has a positive valence and determines a force field which influences the individual and produces behavior directed towards the goal-region. The negative valences are regions influencing a force field which produce behavior directed away from the region. The strength of the force is dependent among other things upon the distance between the individual and the valence. Besides the driving forces, determined by the valences, there are repulsive forces which are dependent upon barriers and induced forces, which again are dependent upon other individuals. Conflict-situations are situations where opposite forces of almost equal strength act upon the individual. The conflict will arise mainly between two positive or two negative valences, or in cases where the positive and the negative valence are placed in the same region. Conflict-situations are very important for certain forms

of behavior such as choice, punishment, reward, emotional tension and restlessness.

While the cognitive structure and valences of the environment (E) determine the forces which cause the behavior of the individual, these valences and the cognitive structure are themselves dependent upon the condition of the individual (P), especially upon the tensions in the central regions corresponding to the needs of the organism. The need and the tension dependent upon it determine in part the valences, which again determine the force-field causing the behavior of the individual. The needs can be biologically determined or psychological. The needs can be satisfied by consummation of the original goal or by substitution (as daydreaming for example). Needs can be changed by external restraining forces, by satisfaction and over satisfaction, by resolutions, by changes into other needs, and by inducement of new needs by the social environment.⁹

As one can tell from the above summary, Lewin's theory is a deterministic, highly structured theory of behavior. In his theory behavior is a function of a very complicated interaction of external and internal factors. Whereas Maslow placed more emphasis on the need as being intrinsic to an individual, Lewin links the need directly to the environment as well as the man. Lewin feels this theory has an advantage

⁹Madsen, K.B., Theories of Motivation, Howard Allen, Cleveland, Ohio, 1961, p. 122.

in that it better explains the directive tendency of behavior it explains how a change in the cognitive structure of the environment is equivalent to locomotion.

Lewin has been highly criticized for presenting such a deterministic model of behavior. However incomplete his theory may be, it came forth in a time when the social sciences were little more than a collection of empirical facts. Lewin's theory is a valuable contribution if only in the fact that it was an early attempt to develop a systematic approach to studying motivation.

IV. STIMULUS-RESPONSE THEORY AND MOTIVATION

The basis of elementary psychology centers around stimulus-response, or S-R theory. S-R theory represents a starting point from which psychologists attempt to analyze all forms of behavior, both human and non-human. To get a grasp of the theory the psychological definitions of the terms stimulus and response must be presented.

The term stimulus refers to the various environmental conditions that are present in any behavioral situation.¹⁰ The concept of stimulus is, however, best explained with the aid of an example. Suppose a psychologist wishes to determine whether a two-year old child can learn to distinguish between circular blocks and square blocks. To answer this question, he might perform an experiment just before mealtime to insure

¹⁰ Kimble, Gregory A., and Garnezy, Norman, Op. cit., p. 17.

that the child was hungry and to increase the probability that candy would be a suitable reward. He would then explain the game to the child and proceed to present the circle and square, perhaps hiding the candy under the square block and having the square sometimes on the right and sometimes on the left so that the child would have to learn to choose on the basis of shape alone. Whenever the child chose the square, he would receive candy as a reward. This procedure would continue until the child mastered the problem, or until the psychologist was convinced he was unable to do so.

This example will provide the basis for distinguishing between a number of more specialized uses of the term stimulus. Consider the significance of shifting the square and circle from side to side. If this were not done and the square were always on the left, the child might learn only that the stimulus on the left was correct. In such an instance, the intended stimulus (the square block) was not the stimulus controlling the individual's behavior, because the child responded, instead, in terms of the location of the block. The difference here defines the difference between potential stimuli and effective stimuli. Potential stimuli are events to which the individual might respond, and effective stimuli are those to which he does respond.

The procedure of waiting to conduct the experiment until the child is hungry leads to another important distinction. The feelings of hunger occur when the empty stomach becomes active, causing unpleasant cramps known as hunger pangs.

These hunger pangs occur as a result of painful stimulation. In this case, the stimuli are internal stimuli as opposed to external stimuli involved in the case of the square and circular blocks. Internal stimuli are of great importance in the control of behavior. Persons seek food, rest, water, or a mate chiefly on the basis of cues that are located in the internal environment. Similarly, highly routinized sequences of behavior, which are performed without thinking about them, occur in an order that depends upon internal stimuli with each specific response providing the cue for the next one. For example, various acts in tying shoelaces lead each to the next without the necessity for looking at the knot as it develops. The individual responses in the chain produce their own stimuli. These stimuli provide the cue for the next element of responding.

The example of the child with the square and circular blocks also illustrates the functions of stimuli. The square and the circular blocks are cues that guide behavior. The candy used as a reward is what is known as a reinforcing stimulus. The hunger pangs would be considered to be motivator or drive stimuli. Thus, certain types of stimuli may actually be considered part of the motivational process.

Psychologists define the term response to be any measurable segment of behavior. To get the grasp of what constitutes a response, consider yourself at this very instance. At the moment you are reading these words. In addition, however, you may be squirming in your chair in an effort to get more

comfortable, experiencing irritation due to noise, or awakening to the realization you are thirsty and could use a drink of water. As one can see, at any one point in time there may be numerous segments of behavior coming from an individual and the problem of the behavioral scientist is to sort out those elements of behavior for closer study. These segments of behavior are termed to be responses. Any response occurs as a reaction to a given stimulus or combination of stimuli. For example, suppose a psychologist wishes to give an individual a test. He does not record all of the behavior of the subject during the testing session. That would be virtually impossible. Instead he records the answers (responses) the patient gives to questions (stimuli).

A great deal of the psychologist's analytical framework is built about the concepts of stimulus-response. Motivation fits mainly into the framework as an intervening variable which bridges the gap between the stimuli and the resulting response. The nature and direction of the responses are determined by motivational forces, but the stimuli are the mechanisms which set the motivational forces in action.

V. UNCONSCIOUS MOTIVATION

One of the most important concepts of modern psychology came about largely, but not exclusively, through the work of Sigmund Freud. This concept is known today as unconscious motivation. The basis of this theory is that most human behavior is determined by forces within the individual of

which he is not consciously aware. People often act in ways which they themselves are unable to explain. Some may give explanations for their behavior which they believe are quite correct. However, an observer may see that these are not the real motives.

Freud's pronouncements about the dynamic unconscious were about as disturbing to man as the discovery by Copernicus that the earth was not the center of the universe. Man liked to think of the earth as the center of everything in the universe. Today, man still likes to think of himself as something special and different from lower animals. Above all he likes to think that he is completely rational. He deeply cherishes the thought that he can always control his behavior and has great reluctance to relinquish this thought.

Today, most people are somewhat willing to believe man's behavior is unconsciously determined in most instances, but they usually believe this only about other persons and not themselves. They prefer to think that they are not subject to distant, hidden impulses and motivations.

In psychology, the mind is divided roughly into three areas: the conscious, pre-conscious, and unconscious.¹¹ The conscious is that area of the mind which is concerned with immediate awareness. You know you are reading right now, and this is conscious.

¹¹Robbins, Lewis L., "Unconscious Motivation," The Menninger Quarterly, Vol. 10 (1956), p. 24.

The pre-conscious is the portion of the mind where those things are stored which one can recall at will. You will probably remember the address where you lived when fifteen years old. This awareness is conscious. Before you thought of the address it was pre-conscious.

The unconscious is that segment containing a great deal of "forgotten" material which cannot be recalled at will. It contains ideas, wishings, and strivings which were once conscious, but now have been buried or, as psychologists say, repressed. The unconscious also contains many primitive instinctual strivings and desires which have never been conscious. The unconscious is a tremendous storehouse of forgotten memories and experiences. One might say that the human mind is like an iceberg. About one-seventh of it is exposed to conscious or pre-conscious awareness and about six-sevenths is below the surface.

Even though the conscious is not apparent, its effects certainly are. There is a great deal of evidence that the unconscious exists. When a person is put under hypnosis it is possible for him to recall many events which he cannot remember in a state of consciousness. Forgetting is another evidence of the unconscious. Persons are apt to forget some things about which they have conflict. Some people, for example, often forget important appointments. If they stop and honestly reflect they will probably find that they had been reluctant to keep their appointments in the first place. Persons who have terribly traumatic experiences very

often not only forget the experience, but their own name as well. Dreams also furnish evidence of unconscious mental activity. You probably have experienced the interesting phenomenon of solving problems in your sleep. Many preferences and prejudices are determined unconsciously, even though they are frequently given conscious reasons. This is true of many political convictions, though certainly not all. Consider those areas of the country where people will either vote Republican or Democrat in very predictable proportions. Such a list of everyday evidences of the unconscious could go on endlessly.

At any given moment in a person's life the motivation for much of his behavior is unknown to him. If asked to formulate the reasons for his actions, he finds himself capable of correctly verbalizing a part of them. In general, the exclusion of motives from conscious recognition may be regarded as a protective device. There is much in a person's psychological make-up that is painful or unpleasant for him to contemplate. The motives that are unavailable to conscious recognition tend to carry an affective tone of this sort. The fact that they operate unconsciously guards the individual against experiencing the intense anxiety which would otherwise be provoked.

An example of unconsciously motivated behavior will help to clarify the protective function involved. Consider the following example:

"There are some people who, although not lacking in ability, appear destined to a life of recurrent failure. Whatever field of endeavor they try, the pattern of events takes the same course--initial progress followed by inevitable failure, frequently just as success seems within reach. In many cases the person is motivated by an unconscious wish to fail, perhaps as punishment to himself for some real or imagined misdoing, or as a way of sharing and causing grief to a hated parent. As for the defense which the chronic failure offers in his behalf, we are all acquainted with such excuses as: 'It's just fate.' 'I never had a real chance.' 'It's not what you know, but who you know (to which of course, considerable truth attaches, but not enough to explain a life-time of failure).' 'If only I'd been able to go to college...' And so on."¹²

Basically, persons are a reflection of this vast area of unconscious mental processes, and these unconscious processes have a dynamic effect upon human behavior. It is not necessary that an individual be made aware of what his unconscious motives are. Yet an awareness of the fact that these desires exist in all people and their extraordinary functioning can be extremely important to anyone dealing with other people, for whatever purpose.

VI. DEFENSE MECHANISMS AND MOTIVATION

Whenever an individual is motivated to certain behavior his goal is conscious or unconscious need satisfaction. However, very often goals are not attained, needs not satisfied, and frustration follows. In the flow of life's fortunes everyone from time to time faces frustration in such forms as

¹² Swartz, Paul, Psychology, The Study of Behavior, D. Van Nostrand Company, Inc., Princeton, New Jersey, 1963, p. 229.

failure, defeat, embarrassment or rejection. These episodes create pressures to re-evaluate one's self and such re-evaluations are none too pleasant. Therefore, persons normally tend to resist re-evaluating themselves, and have a group of techniques called defense mechanisms whose purpose is to prevent self-devaluation. Psychologists have been able to identify several of the more common types of defense mechanisms which appear in some degree in the behavior of virtually all people. The characteristics of the more common types will now be discussed.

A. Rationalization

A person rationalizes a behavior failure when they establish a reason for it that is personally satisfying but that would not stand the scrutiny of objective analysis. The job aspirant whose application is rejected because of lack of qualifications, but who ascribes his failure to religious prejudice is rationalizing his experiencing. Another example of rationalization is the socially inept individual, who when unaccepted by his peers, thinks of himself as too mature or intelligent to really be appreciated by them.

Except in rare instances, rationalizations are explanations which could very possibly be true. People have been denied employment for religious reasons, and some persons are isolated from their peers because of an intellectual differential. It is the possibility of being true that renders a rationalization effective as a device for maintaining the integrity of the self image.

B. Projection

Sometimes when a person would find his true thoughts and feelings intolerable, he convinces himself unconsciously that other people have these thoughts and feelings toward him. By this mechanism of projection the individual is able to direct his aggressive feelings toward others rather than toward himself. An example of projection is the unfaithful husband who accuses his wife of infidelity. Another example is the irritable or selfish person who sees everyone else as irritable or selfish while convinced he is gaily or generosity personified.

Projection also enables a person to blame other people, or even things, for failures essentially of his own making. The student who fails a course may claim that the instructor didn't like him, and the golfer who drives his ball into the water may throw his club or blame his misfortune on a "dead ball." Such projections protect the individual's feelings of self-esteem.

C. Withdrawal

Persons sometimes defend against a possible self-devaluation by retreating or withdrawing from a behavior situation in which failure has been experienced or there is a good likelihood of failure. The young boy who withdraws from athletic competition because of an initial poor performance exhibits the use of this technique.

D. Regression

Under the stress of behavior failure the person may revert

to an earlier level of functioning, one not burdened with threats to the integrity of the self-image. An example is the case of a young adult who, after suffering a business reverse, follows a pattern of economic dependence on his parents rather than risk another financial defeat.

E. Reliance on Fantasy

The individual who encounters tough sledding in the world of reality may develop a reliance on fantasied behavior to maintain a satisfying self-image. The homely girl who daydreams of being a motion picture queen is an example of the use of this defense mechanism.

F. Repression

To repress a behavior event or some aspect of it, is to exclude it from awareness and render it unavailable to the normal recollective process. Although the repressed material may continue to disturb the individual, it no longer constitutes a direct pressure to re-examine the self-image. An inability to recall the details of a failing experience illustrates the operation of repression.

G. Aggression

When an individual reacts to frustration by aggression, he attacks either the obstacle blocking him or some substitute for that obstacle. Since the attack is aimed at eliminating or overcoming the barriers causing the frustration, aggressiveness would be highly adaptive were it not for the

fact that modern man's very existence depends upon his living in social groups in which aggressiveness is curbed.

Often an individual will direct his hostile feelings toward some object or person other than the one actually causing his frustration. Such an action constitutes what is known as displaced aggression. The clerk who snaps at his wife and children because he has failed to get a raise is an example of displaced aggression.

H. Reaction Formation

When a person unconsciously represses his socially unacceptable desires because the thought of them is guilt-provoking, he may develop conscious attitudes and over behavior patterns that contradict his unconscious wishes. Such behavior is known as reaction formation. In essence reaction-formation is expressing attitudes or desires which one unconsciously has opposite ideas about. One example psychologists point to as reaction-formation is a man who unconsciously believes himself to be feminine in character. Often such men will react by turning themselves into prodigious "Don Juans" and engage in an excessive number of love affairs as a defense against their femininity.

I. Compensation

Failure in one area of behavior may be followed by a determined effort to succeed in another, substitute area. Proficiency in the substitute field compensates for lack of success in the original field and thus helps to preserve the

integrity of the self-image. One can observe compensation at work in the familiar instance of the socially frustrated youth who cultivates a solitary hobby, such as collecting stamps or coins to the point where it provides him with sufficient satisfaction to substitute for that denied him in his interpersonal activities.

J. Identification

By associating one's self with a particular group or person, one can participate vicariously in the latter's accomplishment. The effect is self-enhancing and tends to minimize the impact of a lack of personal behavior success. This is one factor that accounts for the appeal of totalitarian actions to people whose lives are undistinguished by significant individual achievement. The fact persons will always support a winning team and usually reject a losing team is another aspect of identification.

K. Summary

These techniques for maintaining the integrity of the self-image are universally utilized. Although maturity is the most positive way to handle behavior failings, for someone to accomplish this all the time would be a virtual impossibility. The use of such defense mechanisms as previously described is an inevitable feature of human behavior, and no one can say that they are totally bad. Very often compensation may offer a potentially more constructive course of action as compared with resignation to failure. The danger in defense mechanisms

is in the fact that it is possible for an individual to excessively depend upon them and fail to correct his behavior weaknesses. A person can rely too much on fantasy or repression for his satisfaction in life. In effect, he loses touch with reality and this is defined as mental illness.

VII. CONCEPTS OF THE ACHIEVEMENT MOTIVE

A. Defining the Achievement Motive

A great deal of interest in the past decade has developed about the concept of the achievement motive. In 1953, Dr. David McClelland, a psychologist, co-authored a book entitled, The Achievement Motive, and this book aroused a great deal of interest in the subject. The achievement motive is defined as the need to perform actions at a level of excellence.¹³ This involves competition with a particular standard of excellence of performance. Such standards generally, are culturally determined.

Both individuals and whole societies differ in the degree of achievement motivation characteristic of them. In a society like our own where the "success ethic" is held in high regard, one may expect a large incidence of high achievement motivation. In both work and play, American children are exhorted to excel. The standards of excellence set are high. Although it is a number of years since anyone born in

¹³McClelland, David, Atkinson, John, Clark, Russel, and Lowell, Edgar, The Achievement Motive, Appleton-Century-Crofts, Inc., New York, 1953, p. 78.

a log cabin attained the highest office in the land, the fact that this road has been traveled successfully still serves as an object lesson for young people.

B. The Study of the Achievement Motive

McClelland and his colleagues devised a method for studying achievement motivation based on a content analysis of fantasy behavior. The subject is shown several pictures of human scenes suggesting achievement. Each of these pictures is sufficiently unstructured to permit a wide diversity of interpretation. The subject is asked to make up a story about each picture. To guide the subject in his work the following questions are asked about each picture:

- 1) What is taking place? Who are the people involved?
- 2) How did the present situation develop? What is its history?
- 3) What are the various people thinking? What do they want?
- 4) What will the outcome be? What action will take place?

The stories written by the subject are analyzed for their achievement content in terms of the achievement imagery they reveal. This analysis provides the necessary information for inferring the strength of the individual's achievement motivation.

By systematically varying the conditions under which the subject performs, it is possible to vary the degree of arousal

of achievement motivation and thus, to alter the achievement content of the stories. This is accomplished by modifying the instructions to the subject, introducing paper and pencil (tasks prior to the testing of achievement motivation) and by providing the subject with experiences of failure or success on the preliminary tasks. In the relaxed condition the experimenter effortly minimizes the importance of the paper and pencil tests. In the neutral condition the situation is structured to maintain a normal, everyday level of motivation. In the achievement oriented condition the importance of the preliminary tasks is emphasized. They are described as tests of intelligence and leadership.

As achievement motivation is experimentally heightened there is a positive change in the expression of achievement imagery. The subject's stories become increasingly more concerned with achievement, the need for achievement, anticipation of success and failure, acts instrumental to success and the avoidance of failure, affective states associated with succeeding and failing, blocks in the way of achieving, and help from other persons in the direction of achievement.

C. Significant Findings of Achievement Research

The content analysis of imaginative stories is one of several methods developed to study achievement motivation. From the various approaches used a number of significant relationships have emerged concerning achievement motivation. Some of the more significant findings are:

1) The individual with high achievement motivation is more likely to take a moderate risk in preference to pursuing either a very unsure or very unsafe course than is a person with low achievement motivation.

2) Children with high achievement motivation have a history of earlier training in acquiring mastery and independence than children with low achievement motivation.

3) Middle-class persons demonstrate higher average achievement motivation than lower-class individuals.

4) The pattern of achievement motivation that develops among middle-class children pre-disposes them to maintain the same motivational level when accomplishment promises either a material reward plus the satisfaction of having performed well, or simply the latter incentive. Among lower class children, however, the absence of the material incentive is accompanied by a marked reduction in the level of achievement motivation.

5) Individuals with high achievement motivation are less susceptible to social pressures.¹⁴

On the basis of a large number of investigations, McClelland has drawn the following composite profile of an individual with high achievement motivation:

"...Someone who wants to do well at what he undertakes, who is energetic, nonconforming, and tends to be predisposed toward innovations, toward working at tasks which are not safe and traditional but involve some

¹⁴Swartz, Paul, Psychology, The Study of Behavior, D. Van Nostrand Company, Inc., Princeton, New Jersey, 1963, p. 240.

element of risk--perhaps because only then can he feel enough subjective satisfaction from succeeding."¹⁵

VIII. RELATING THE CONCEPTS TO EACH OTHER AND THE STUDY

This chapter has been primarily a psychologist's view of human motivation. Perhaps some of the concepts presented appear a bit irrelevant to the objectives of the study at this point. However, they are not only relevant, but highly interrelated and will serve to supplement understanding of the findings of the primary research study.

In management thought the need hierarchy concept of motivated behavior is the most widely used concept to explain human motivation. The reason for this probably lies in the fact that on the surface the theory of the need hierarchy appears to be very structured, and consequently functional in nature. Inasmuch as traditional management thought is functional in nature, the two bodies of thought harmoniously mesh. The purpose of devoting a great deal of this chapter to the need theories of motivation was several-fold. First, the system being studied in this particular dissertation has a human need as a major component of the system. This need is the need of a manager to achieve organizational goals. The second purpose of studying need theory in greater detail was to understand the propositions, assumptions and qualifications of the theory. When this is done one realizes that need

¹⁵McClelland, David C., "The Use of Measures of Human Motivation in the Study of Society," in Atkinson, John W., Ed. Motives in Fantasy Action and Society, D. Van Nostrand Company, Inc., Princeton, New Jersey, 1958, p. 519.

hierarchy theory, much like economic theory, is somewhat less functional in a real world situation than it might appear to be to the casual observer. For example, the need to achieve organizational goals could be placed at any one or all of the five levels of the need hierarchy at any given time.

After the need theory, Lewin's theory was introduced. Whereas need theories tend to focus more on the individual, Lewin's theory stresses the importance of not only individual needs, but the individual's environment and the interdependence of these two factors. This theory supports the idea that an individual manager's need to achieve organizational goals may well be strengthened or weakened by environmental factors. One of these factors may well be his perception of his superior's motivation to achieve organizational goals or the level of his managerial position.

The concepts of stimulus-response theory was next introduced. The main lesson to be learned from these concepts are that stimuli may be both internal and external to an individual, and that motivation is the intervening variable which stands between the stimulus and any response which may develop from it. In this study the stimulus in question is the subordinate's perceiving his immediate superior's motivation to achieve organizational goals. The response would be a measurable change in the behavior of the subordinate to achieve organizational goals as a result of the stimulus in question. The motivation to achieve these goals is, of course, the unseen intervening variable.

The concept of unconscious motivation is most relevant, because it tells us that an individual cannot give the actual reasons for his behavior. It is not that he wishes to be dishonest, but simply because these reasons are unknown to him. It is possible, therefore that a superior's motivation, as perceived by a subordinate, could in turn affect his motivation and it would be totally unknown to him. To ask an individual if he felt his superior's motivation affects his own job motivation would be superifical and inaccurate at best. It may be quite possible that the person feels he is motivated by his supervisor's motivation (along with other factors) when in fact he is not. On the other hand, persons may have their job motivation affected by perceiving their superior's job motivation but swear that it has totally no affect on their behavior.

Defense mechanisms are behavior techniques which result when needs fail to be satisfied. Thus, one might say that these mechanisms are motivated by frustration. They are an attempt to satisfy needs through an alternative channel. Inasmuch as one cannot observe motivation, but only its consequent behavior, one must be extremely careful in reaching conclusions about which motives actually cause the observed behavior. An individual who strives very energetically to achieve organizational goals may be compensating for other goals in his life which he feels he has failed to achieve. When one attempts to determine which stimuli and motivations are responsible for a given type of behavior, the picture is

clouded and made vastly more complex due to the defense mechanisms.

The relationship of achievement motive concepts to the study is apparent. The executive is in effect in an achievement oriented position. He has objectives defined and these objectives are the standards of excellence with which he competes. The primary research experiment is, through a projective technique, attempting to evaluate the achievement motivation of subjects. The scope of the problem in this study has a much narrower scope than McClelland's study. In this study achievement is defined only in terms of organizational goals. The perceived level of superior motivation and level of managerial hierarchy will be varied to determine their effect on the achievement motivation of subjects.

This chapter concludes the majority of the secondary research part of the study. It will complement the primary research experiment by providing a body of concepts upon which the analysis of the research may be based.

Chapter III

ANALYSIS OF THE STUDY

I. INTRODUCTION TO ANALYSIS

The secondary research in the preceding chapter has provided this study with a body of analytical concepts. To supplement the study an empirical or primary research study has been carried out. The structure of this chapter will be built around analyzing the results of the experiment and tying these results in with the concepts provided in the secondary research chapter. Before embarking upon this chapter, the reader may find it helpful to review the discussion of the primary research methodology in Chapter One.

A. A Review of Objectives and Hypotheses

Before plunging into analysis it is best that the objectives and hypotheses of the study be reviewed. The primary objective of this study is to determine if a subordinate manager's motivation to achieve organizational goals is meaningfully influenced by his perception of his immediate superior's motivation to achieve organizational goals. This concept was defined as motivation through appearing motivated. The second objective of the study is to determine if subordinate managers in high level positions are influenced significantly more by motivation through appearing motivated than subordinate managers in low level positions. The problem is to be studied from the systems approach, and the systems diagram of the area of study is once again depicted in Figure 3.

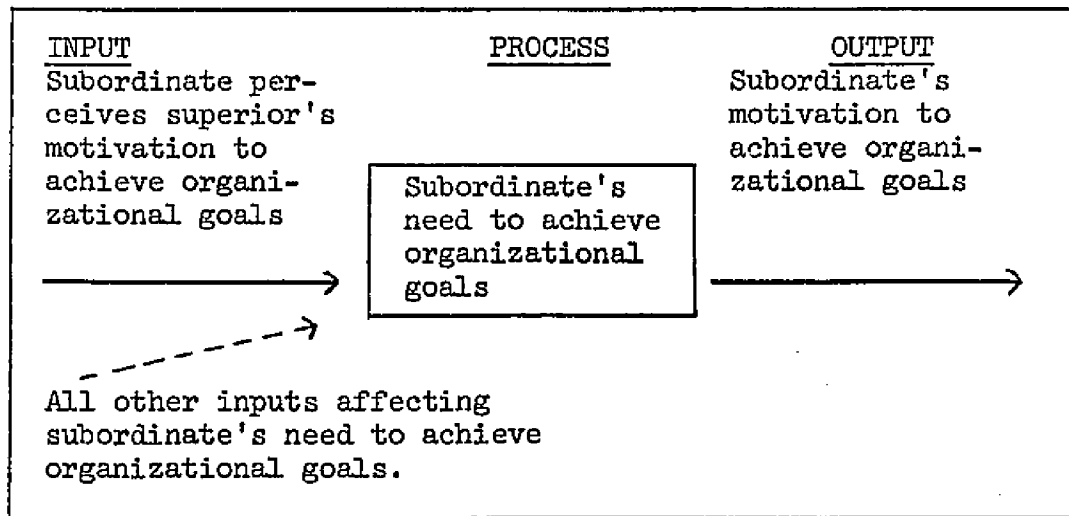


FIGURE 4. - A Systems Diagram of the Area of Study

It can be seen from the systems diagram that the input to the system being studied is one of many possible inputs into the system. A subordinate's need to achieve organizational goals is determined by many factors such as social conformity, a need to earn a livelihood, and a means to occupy his time. What this study seeks to determine is whether the perception of the superior's organizational motivation is a relevant factor influencing the subordinate's organizational motivation and consequently his achievement motivation. A secondary objective of the study will be to determine the extent to which the level of management affects this input being studied.

Once again, the hypotheses of the study are as follows:

Major Hypothesis 1: Subordinates who perceive their superiors as highly motivated to achieve organizational goals have significantly higher motivation to achieve organizational

goals than do subordinates who perceive their superiors as being poorly motivated.

Minor Hypothesis 1: Subordinates who perceive their superiors as somewhat average in motivation to achieve organizational goals will be more significantly motivated to achieve organizational goals than subordinates who perceive their superiors to be poorly motivated, but significantly less motivated than a subordinate who perceives his superior as highly motivated.

Major Hypothesis 2: Subordinate managers in high level positions will be more highly motivated by perceiving their superiors as highly motivated than will subordinate managers in low level positions.

Minor Hypothesis 2: Subordinate managers in high level positions who perceive their immediate superiors as either average or poorly motivated to achieve organizational goals will tend to follow the motivational example set by their superiors in their own personal motivation more than subordinate managers in low level positions.

Major Hypotheses 1 and 2 are formal statements of the primary and secondary objectives of the study. Minor

Hypothesis 1 states that there is an ordinal ranking of subordinate motivation resulting from perceptions of superior motivation. If Minor Hypothesis 1 is valid, subordinates should be most highly motivated by a highly motivated superior, and least highly motivated by a poorly motivated superior. Minor Hypothesis 2 states that high level subordinates have a greater tendency to identify with their immediate superiors motivational patterns, as they perceive them, than will low level subordinate managers.

B. The Experiment

The primary research experiment utilized management cases as projective techniques for gathering behavioral research data. If one accepts the findings of the experiment then one must accept the assumption implicit when a projective technique is used. This basic assumption is that when an individual is asked to interpret or predict a given situation he will project his own feelings, desires, and wishes into his interpretation of the situation.

The choice of sample used in the primary research places limitations upon any concrete conclusions which may be inferred from the study. The subjects utilized in the study were technically trained personnel who were occupying managerial positions. All of these individuals were employed by the same company in the same city. Such a sample is far from constituting a simple random sample of executives. Therefore, any conclusions from the quantitative analysis apply only to the population from

which this sample of executives was taken.

The experiment was performed by giving each individual one case to read and a Thurstone Attitude Form and an open-end question to answer. The independent variables of the study, 1) the level of the superior's motivation to achieve organizational goals as perceived by the subordinate and 2) the subordinate's position in the managerial hierarchy with respect to his being either a high level or low level manager, are varied in varying combinations through the six different cases. The purpose of the experiment was to determine if the independent variables affected the dependent variable, the subordinate's motivation to achieve organizational goals, in the various combination of ways which were stated in the hypotheses.

All sixty subjects performed the experiment consecutively. They were told that they were being given a test for executives designed to measure managerial ability and creativity in handling human problems of administration. According to McClelland such prior conditioning will heighten achievement imagery in answers to the experiment. They were told not to put their names on the test forms, because the test was a reflection of over-all company managerial effectiveness rather than an individual evaluation.¹ There was no time limit

¹Company authorities who were kind enough to grant permission and time for the performance of this experiment have asked that the company and its participating employees remain anonymous.

placed on subjects, and everyone completed the task within fifteen minutes.

Each subject received two pages stapled together. On the first page was the management case for the subject to read and on the second page was the Thurstone Attitude Form and the open-end question. The open-end question asked the subjects to state briefly in their own words any effects they felt the superior in the case would have on the motivation of the subordinate in the case to do his job. The subjects were instructed to write their answers to the open-end question on the first page where the case appeared. At all times subjects were free to refer to the case as much as they so desired.

C. The Results Depicted Quantitatively

The numerical data of the experiment brought with it some surprising and interesting findings. The Thurstone scores were processed, and a two-factor analysis of variance was carried out as was described in the methodology section of Chapter One. A summary of the results of the analysis of variance are shown in Table-1. The analysis showed there to be significant differences between all cases. Both the level of the motivation of the superior and the level of management of the subordinate's position appeared to significantly shape the motivational scores of subjects responding to the questionnaire. The mean and standard deviation of the motivational scores of each case was calculated also. The results of this analysis were somewhat startling and are shown in Table-2.

| SOURCE OF VARIATION | DEGREES OF FREEDOM | SUM OF SQUARES | MEAN SQUARE | F RATIOS |
|---|--------------------|----------------|-------------|--|
| BETWEEN LEVELS OF MANAGEMENT (ROWS) | 1 | 117 | 117 | 26.41 significant at both .05 and .01 levels |
| BETWEEN LEVELS OF PERCEIVED SUPERIOR MOTIVATION (COLUMNS) | 2 | 269 | 134.5 | 30.36 significant at both .05 and .01 levels |
| INTERACTION | 2 | 22 | 11 | 2.48 not significant at both .05 and .01 levels |
| ERROR | 54 | 239 | 4.43 | -- |
| TOTAL | 59 | 647 | -- | -- |

TABLE I - Two-way Analysis of Variance of Thurstone Scores

| <u>CASE</u> | <u>MEAN SCORE</u> | <u>STANDARD DEVIATION</u> |
|-------------|-------------------|---------------------------|
| 1-A | 19.6 | 1.2 |
| 1-B | 14.7 | 2.58 |
| 1-C | 17.4 | 1.56 |
| 2-A | 17.8 | 1.40 |
| 2-B | 12.6 | 1.36 |
| 2-C | 12.9 | 3.47 |

TABLE II - Mean Thurstone Scores and Standard Deviation
Classified by Cases.

As can be seen in Table-2, the highest mean motivational scores come from cases in which the superior was perceived to be a very highly motivated individual. It is also interesting to note that these same two cases also had relatively little variation in scores as is depicted in their low standard deviation.

A somewhat surprising finding of the analysis is that the second highest mean motivational scores come from cases in which the superior was perceived to be a very poorly motivated individual. The case in which the superior is a poorly motivated high level executive has a relatively low level of dispersion between scores. However, the scores from the case in which the superior was a poorly motivated low level manager (Case 2-C) had by far the highest standard deviation of any of the cases. A closer look at the distribution of the scores from this particular case revealed the distribution to be bi-modal in nature. The scores from this case were divided into two distributions and analysis of these distributions explained the large standard deviation of Case 2-C. The two

sub-distributions of Case 2-C had means of 10.33 and 16.75 and standard deviations of 1.48 and 1.52 respectively. Thus, it appears that those subjects who received Case 2-C believed the motivation of the subordinate would be either substantially good or rather mediocre.

The two-factor analysis of variance showed no significant interactive effects between levels of management and levels of motivation of the superior as perceived by the subordinate. However, answers to the open-end question are contradictory to this statistical finding and will be discussed later in this chapter.

The lowest average Thurstone scores came from those cases in which the superior was perceived as being neither highly nor poorly motivated to achieve organizational goals. There was a rather high dispersion of scores in Case 1-B, but further analysis revealed no pattern of answers as was the case with Case 2-C.

II. ANALYSIS ON THE BASIS OF CASES

The analysis thus far has been a descriptive discussion of the results of that data which is quantifiable. These figures by themselves are meaningless to a great degree. What is needed now is to tie the findings of the Thurstone scale scores in with the findings of the open-end question and the secondary research findings previously discussed. Only when all three of these factors are considered can a meaningful

analysis of this study be achieved. The function of this section will be to create a harmonious blend of qualitative and quantitative primary research along with secondary research in order that the product will be a meaningful analysis. To facilitate such an analysis the body of this section is divided into three parts. In each part the findings of two cases will be analyzed. The first part will analyze those cases in which the superior is perceived to be highly motivated, the second part those cases in which the superior is perceived to be average in motivation, and the third part those cases in which the superior is perceived as being poorly motivated.

A. The Highly Motivated Superior Cases

Data obtained from subjects having highly motivated superior cases was the most consistent data between subjects of all of the types of cases. In both Case 1-A (the highly motivated, high-level superior) and Case 2-A (the highly motivated, low-level superior) the answers to the open-end question contained a consistent opinion. Every subject responding to the open-end question, who had a highly motivated superior case felt that the superior's high motivation would improve the subordinate's motivation. These answers are backed quantitatively by the fact that Cases 1-A and 2-A had the highest mean Thurstone scale scores of any of the cases. Case 1-A had a mean scale score of 19.6 which was found to be significantly greater than the mean

scale score of 17.8 in Case 2-A. The fact that these mean scale scores were the highest, supports the hypothesis that a person who perceives his superior as highly motivated will be in turn more highly motivated. The significant difference between mean scores of the cases provides support for the hypothesis that persons in high level management positions are more highly motivated by highly motivated superiors than are persons in low level management positions.

Several of the leadership and motivation concepts discussed in Chapter One are supported by the data gathered in the highly motivated superior cases. For example, the concept of true leadership is supported by the data from these cases. The subordinates will be motivated by the superior's example, according to the subjects who read the cases and answered the questions. The subordinate is being motivated by his superior by some means other than through the formal organizational structure.

One can also see the principle of supportive relationships supported by this data. All subjects felt the superior's example would cause the subordinate to follow his example. In doing this the subordinate is identifying his behavior pattern with the superior and building his own sense of personal worth and importance. The identifying behavior which subjects felt the subordinate will exhibit also points out an example of the identification defense mechanism which was discussed in Chapter Two.

In Case 1-A, the subjects appeared to be impressed by a fact stated. Bob Brown, the subordinate in the case, was a 34-year old vice-president. Although it was not foreseen by the writer, the subjects constantly mentioned that Brown must be an outstanding individual to be a vice-president at age 34.

Some typical responses to the open-end question to Case 1-A are given below:

"He will be inspired by Anderson's example. Brown has to have much on the ball to get this position at age 34, and he will be striving to make good. In about four years he will be looking for a bigger and better job."

"Anderson's actions will affect Brown. Brown must be highly motivated to be a V.P. and Anderson's motivation can only motivate Brown more. Look for Brown to be as good of a V.P. as Anderson is a president."

"Brown is a young vice-president and must be highly motivated. He will feel at home working with a fire-ball like Anderson. The two should get along famously and make a great team."

The answers presented above and in other responses are all very indicative of high achievement imagery. However, the achievement imagery is highest in Case 1-A. This finding is supportive of McClelland's findings on achievement motivation through identification with projective techniques.

In Case 2-A the data again reveals a high level of achievement imagery but not so intense as in Case 1-A. The difference lies in the praise for Bob Brown. When Brown is depicted as a vice-president in Case 1-A the subjects responded with praise for him. However, when Brown is depicted as a 34-year old foreman (Case 2-A) with a highly motivated superior, all

the praise is accorded to his boss. Consider the following responses from Case 2-A:

"Anderson knows how to motivate his workers and subordinates. If he did not he couldn't be so successful. He will motivate Brown to greater efforts like all the rest."

"Based on Anderson's past successes (impossible without generating motivation from subordinates) he will have a favorable effect on Brown's development."

"Brown can learn a great deal from Anderson's success. Anderson will probably be promoted soon and move on to greater responsibilities. If Brown works hard with Anderson he can move up with him. How motivated he will be will depend greatly upon his personality."

As can be seen, the responses from Case 2-A are in many ways similar to Case 1-A. The stimulus of a highly motivated superior appears to create the response of higher subordinate motivation. Analysis of the data from these cases also supports the idea that the perception of the superior's motivation is a meaningful input to the human motivational system which was depicted in Figure-3. This in turn implies that this input stimulates a need to achieve. Exactly where this need to achieve would lie on Maslow's hierarchy would be difficult to state for any particular individual. However, in an organization situation it will unquestionably be a higher order need.

B. The Average Motivated Superior Cases

Cases 1-B and 2-B provided less meaningful data for analytical purposes than did the remaining four cases. In these cases the superior's perceived motivation was neither

high nor low. The result of this was the cases seemed to be unable to trigger any meaningful answers from the subjects.

An interesting fact that arose was that the scale scores from the average motivated superior cases was among the lowest of the six cases. Case 1-B has a mean scale score of 14.7 which was the lowest of the three high-level superior cases. Case 2-B had a mean scale score of 12.6 which was the lowest of all six cases.

In Case 1-B there appeared to be some comment to the effect that the subjects were impressed that Bob Brown was a 34-year old vice-president. However, it is interesting to note that subjects who read Case 1-B did not consistently feel that Brown was a highly motivated individual as they did in Case 1-A. Perhaps this represents the unconscious motive that a highly motivated superior can create in a subordinate. Although the verbal responses are somewhat varied and seemingly meaningless in Case 1-B, several are presented below for purposes of demonstration:

"There really isn't enough information given about Brown to tell how he will react. The best one can say is that it will depend on his psychological make-up."

"Anderson seems as though he is a rather bland individual. A man like this could cool the enthusiasm of a young vice-president."

"When two or more individuals have failed to achieve a high degree of synergy, then attempts to interact with each other will always be mentally frustrating and reductive."

The verbal responses in Case 2-B are very much the same as Case 1-B with the exception that Bob Brown's enthusiasm is not mentioned at all.

The problem inherent with Cases 1-B and 2-B is that they were rather bland in content. The result was that subject involvement was poor, thus the individuals could not project themselves into the situation and give meaningful responses. In Cases 1-A, 2-A, 1-C, and 2-C, this is not the situation and the subjects were able to project their feelings into the situation quite well. Due to the apparent lack of projection in these cases it would be risky to state that the findings from these cases contributed much, if anything, to the objectives of the study.

C. The Poorly Motivated Superior Cases

The poorly motivated superior cases, 1-C and 2-C, reflected high degrees of achievement imagery and subject projection, as did the highly motivated superior cases. The data taken from the subjects with Cases 1-C and 2-C was rather surprising but very rational from the standpoint of the subjects.

The mean Thurstone scale scores of Cases 1-C and 2-C were 17.4 and 12.9 respectively. These scores taken by themselves were somewhat confusing, but when the data is further analyzed and the open-end questions are brought in, the reasoning becomes quite apparent.

In Case 1-C the high scale scores were attributable to two major factors. First, those subjects responding to Case 1-C felt the subordinate must be highly motivated in order to be a vice-president. The second factor that accounted for the high scores was the poor motivation of the superior in the cases. The subjects reasoned that a 34-year old vice-president with a poorly motivated superior would be highly motivated with the idea that he may someday get the superior's job. The responses to the open-end question indicated that subjects felt the subordinate would find the superior's poor motivation frustrating, but in the final analysis they felt that an energetic young, vice-president would continue to be highly motivated. It is interesting to note that nothing was mentioned in any of the cases about the subordinate's motivation. These traits were assumed by subjects.

The reaction to a poorly motivated superior appears to be manifested in the form of various defense mechanisms as were discussed in Chapter Two. Among the responses to a poorly motivated superior include such defense mechanisms as aggression (taking away the superior's job), compensation (he will be motivated for other reasons), and withdrawal. The following three responses, taken from subjects who were assigned Case 1-C, demonstrates each of the three defense mechanisms mentioned above:

"Brown sees that this is his big chance. With an apathetic president he will be highly motivated

with the thought of taking the job away from Anderson."

"Brown may perceive that he has a golden opportunity to move into the president's job. This would be due to Anderson's general apathy and incompetence whereby Brown believes that the board will not tolerate such performance and will look for a new president. If he believes this he can be motivated to do an outstanding job, in spite of some difficulties with Anderson, hoping to advance himself and the company."

"Brown may soon determine that Anderson is so deeply entrenched that he will be president for some time. Under this condition, Brown may have such difficulty working with him that he may endanger his career and lose personal interest in his work."

In Case 2-C, the poorly motivated low-level superior case, the responses tended to be divided into two distinct and opposite viewpoints. Subjects felt that the subordinate would be either highly motivated with hopes of getting the superior's job, or poorly motivated because of the superior's poor example. How the subjects responded to Case 2-C appears to depend on the assumptions they made about the subordinate's personality make-up. Those who assumed the subordinate to be ambitious gave responses which were typical of the following one:

"This is Brown's first crack at a foreman's job. He will want to do his best, and Anderson's apathy won't stop him. If Anderson is really bad, Brown may possibly take his job if he works hard."

Other subjects assumed that Brown was a rather indifferent sort of person and gave responses such as this:

"Anderson's lack of concern will be contagious to Brown. Brown will feel that if the boss can get away with it, he can get away with it."

All responses to the poorly motivated superior cases indicated support for the hypothesis that subordinate perception of superior motivation is a relevant input influencing subordinate motivation. The significant differences in responses given in the two cases also support the hypothesis that the level of management influences the type of response which superior motivation will stimulate.

The main finding learned from analysis of the poorly motivated superior case responses is that the poorly motivated superior will definitely have an effect on subordinate motivation, but the effect is not necessarily a poor one. The achievement oriented individual will respond to an apathetic boss with an aggressive attempt to get the superior's position. Those subjects who felt the subordinate to be less of a go-getter felt the subordinate may tend to identify with the poor example set by the superior's perceived motivation.

D. A Summary of Experimental Analyses and Findings

The highest motivational scores and most achievement-oriented verbal responses came from subjects who were assigned the high-level highly motivated superior case. The highly motivated low-level manager case responses showed the second highest scale scores and the verbal responses reflected high achievement imagery also. However, the most interesting result of the experiment lies in the fact that persons who had the poorly motivated high-level superior case reflected higher scale scores and achievement-oriented responses than

did persons who were assigned average motivated superior cases. Responses from the poorly-motivated low-level superior case fell into a dichotomy. Some responses reflected high achievement imagery, while others felt the subordinate would identify with the superior's poor motivation and be apathetic.

If one was to jump to any hard and fast conclusions on the basis of these findings the results would be quite bizarre. It would appear from the data that highly motivated superiors are the best motivators of subordinates, followed by poorly motivated superiors. On the basis of these findings the average motivated superior is the man who has the most apathetic subordinates relative to their motivation to achieve company goals. However, it should be realized that the nature of the average motivated superior cases was such that subjects had difficulty with involving and projecting themselves into the case. This was well validated by the meaningless and seemingly confused responses to these cases.

Also, one must take into account the very narrow sample of executives participating in this experiment. All were men of a technically oriented background, well educated and occupying managerial positions for the same company in the same city. Such persons are probably highly achievement-oriented individuals, and this may be a reason for the high incidence of achievement imagery in the responses. This finding is analogous to the Herzberg findings which found achievement to be the greatest source of job satisfaction. However, the persons chosen to participate in the Herzberg

experiment were accountants and engineers, and such persons are more achievement-oriented than would be the average worker.

The interactive effects of the level of perceived superior motivation and the level of management on subordinate motivation was not statistically significant in the analysis of variance. It appears quite paradoxical that there should be significant differences between subordinate motivation when the two variables were manipulated, but yet no interaction resulted between them. This is another finding of the quantitative analysis which the writer feels should be treated with great skepticism. It is quite possible that the reason for this is that in the high level superior cases the subjects may have been responding to the fact that the subordinate is a vice-president more than to the perceived motivation of the superior. Such a possible bias is an unfortunate but inevitable consequence of the research design. If one is to use a projective case technique to test the differences in motivation between high and low-level executives, then one must by definition portray a high level executive in the high level cases.

The use of the case as a projective technique for gathering behavioral data appears to have great merit, if the case is able to perpetuate the involvement of the subject. This method is obviously superior to attempting to ask persons questions about their own personal experiences. As it was discussed in Chapter Two most of a person's needs and

motives are unknown to him. Thus the most cooperative and honest of subjects probably could not give as meaningful findings as were gathered through the projective technique.

The findings of the secondary research have made great contributions to the analysis of the primary research. When analyzing the response of a given subject one must not only consider just what the subject replies, but consider, the environment, the stimuli, personal needs, unconscious motives, and the various defense mechanisms which all contribute to a given response. The limitations placed on the primary research prevented the writer from attaching personal backgrounds of subjects to their case responses. Would this have been possible, a wealth of new data could have been generated. However, the nature of this study precludes the analysis of the individual personalities of subjects.

III. IMPLICATIONS OF THE ANALYSIS

A. Support of the Hypotheses

Much of the secondary research in the leadership and motivation areas definitely tends to support both Major Hypothesis 1 and Minor Hypothesis 1. Herzberg, Likert, Indik and McGregor all have philosophies which would tend to support these hypotheses. The findings of the primary research experiment are supportive of Major Hypothesis 1 but fail to support Minor Hypothesis 1. Analysis of the data definitely reflected the concept that subordinates perceiving

superiors as highly motivated had significantly higher motivation than subordinates perceiving superiors as poorly motivated. However, poorly motivated superiors appeared, on the basis of case analysis findings, to be better motivators than average motivated superiors. This is in contradiction to Minor Hypothesis 1, but the failure of the average motivated superior cases to achieve meaningful projective responses may account for this finding.

In the literature on leadership and motivation, little was found that would either support or refute Major Hypothesis 2 or Minor Hypothesis 2. One can see that Maslow's theories or McClelland's concepts of the achievement motives may indirectly support these hypotheses. In the case of Maslow one might argue that inasmuch as the concept of motivation through appearing motivated is a result of a higher order need and if higher level managers are governed more by higher level needs than low level managers, then high level managers should be more motivated by highly motivated superiors than low level managers. McClelland's reasoning would be that high level managers are probably more achievement oriented than low level managers and would thus be more affected by stimuli indicative of an achievement orientation.

The primary research experiment was supportive of Major Hypothesis 2 but contrary to Minor Hypothesis 2. At all levels of motivation of the superior, the scale scores from the high level management cases were significantly greater

than scores from the low level management cases. The verbal responses from Cases 1-A and 2-A both contained high achievement imagery, but the imagery was more intense in Case 1-A. Motivational responses were higher in Case 1-C than 2-C and more frequently mentioned.

Much of both the primary and secondary research would tend to refute Minor Hypothesis 2. Inasmuch as a high level executive is most probably a highly achievement oriented individual his perception of an apathetic superior will probably do little to deter his achievement motivation. It appears that the need to achieve at this level is a higher order need and probably governed by many factors other than just an opinion of the superior's motivation. Such an opinion would be consistent with the works of Maslow, Lewin, or McClelland. According to the results of the primary research, the exact opposite of Minor Hypothesis 2 is supported. Subordinate managers in high level positions with poorly motivated superiors tend to be well motivated for reasons of aggression or pure achievement. Low level subordinates with poorly motivated superiors would have a greater tendency to emulate the boss, according to the findings of the primary research. However, one must accept the limitations of the experiment in question before concluding this to be universally true.

B. The Importance of Perceived Superior Motivation

From the data gathered and subsequent analysis it appears that the importance of perceived superior motivation

depends upon the nature of the perceived motivation, the personal characteristics of the subordinate, and numerous environmental determinants. This ties in well and supports the analytical thesis of McGregor on leadership which was discussed in Chapter One. To understand the nature of these variables each should be considered individually.

The nature of the perceived motivation appears to be a very strong factor in determining how the perceived motivation will affect the motivation of the subordinate. When the subordinate perceives the superior as highly motivated to achieve group goals, his motivational pattern tends to be one of identification with the superior, and the result is high subordinate motivation. However, identification does not necessarily follow when the superior is perceived as being poorly motivated. The poor motivation of the superior when perceived by subordinates, more often than not, is first reacted to with frustration, followed by manifestation of defense mechanisms such as aggression or withdrawal. The strength of the employee's motivation to achieve group goals will depend upon which defense mechanism he employs to alleviate his frustrations. If he is aggressive, he will probably be highly goal achievement oriented, but if he chooses to withdraw, company objectives will play little, if any part in his behavior patterns.

The personal characteristics of the subordinate will be a factor which determines his reaction to his perception of

the superior's motivation. Thus one begins to see these variables are circular and highly interdependent in nature. The personal characteristics will determine defense mechanisms which will be an outgrowth of the subordinate's motivation.

The importance of perceived superior motivation will finally be determined by a host of environmental determinants. Psychologists such as Lewin would place a very heavy emphasis on the importance of the environment. One of the environmental factors specifically tested for its importance in this study is the position in the managerial hierarchy of both the superior and the subordinate.

C. The Effect of Managerial Hierarchy

From this study it is difficult to determine the actual effect that the position in the managerial hierarchy has upon motivation of subordinates. It is true that the scale scores from the high level management cases were significantly higher at all levels of superior motivation than the low level management cases. However, this may be due to effects other than the position of the management hierarchy. The responses to the high level management cases generally assumed the subordinate should be highly motivated, because he is a high level manager. This would seem to indicate subjects were trying to say that a person's motivation to achieve organizational goals will strongly determine his position in the managerial hierarchy, and this is quite correct. However, it contributes nothing to determining the effect

of the managerial hierarchy on motivation or, more specifically, the concept of motivation through appearing motivated.

A strong case can be made from the secondary research that hierarchy of managerial position is a positive motivating force. However, this case is a very indirect one. Motivational studies by such men as Herzberg² and Myers³ have found that persons in organizations are motivated by such factors as achievement, recognition, advancement and responsibility. Inasmuch as the individual in a high-level position has greater potential for having the above characteristics in the nature of his job, one can conclude that an individual in a high level position should have greater motivation to achieve group goals than an individual in a low level position.

One may also use Maslow for supporting the idea that high-level managers are more highly motivated. Maslow would assume that the high-level manager has achieved a greater level of personal growth than has the lower level manager. Thus the needs governing the high level managers behavior pattern would be of a higher order. Higher needs tend to be insatiable and serve as constant motivators. In using this argument one must take cause and effect into consideration.

²Herzberg, Frederick, Mausner, Bernard, and Snyderman, Barbara, The Motivation to Work, John Wiley and Sons, Inc., New York, 1959, p. 81.

³Myers, M. Scott, "Who Are Your Motivated Workers?" Harvard Business Review, Vol. 42, No. 1 (January-February, 1964), p. 76.

The level of management using this type of reasoning becomes more of a dependent variable, whereas in this study the level of management is studied as an independent variable.

It appears that persons in high level management positions should be more highly motivated than persons in low level management positions. It is not clear if the level of the position has an impact in itself or whether the multiplicity of factors which place a person in this position contribute solely to the higher motivation.

D. The Analysis As Related to the System Under Study

If the reader will refer to Figure-3 he may refresh his memory as to the structure of the system being studied. The output of the system is the subordinate manager's motivation to achieve organizational goals, and the process consists of subordinate needs to achieve organizational goals. There are numerous inputs into the system but the one input being investigated is the subordinate's perception of the superior's motivation to achieve organizational goals. The major objective of this study has been to determine if this input has a meaningful impact on the operation of the system. The secondary objective was to determine if the level of management of the individual's position had a meaningful impact on the operation of the system.

Both the primary and secondary research of this study strongly support the idea that subordinate perception of superior motivation is a meaningful input into the system.

Although the findings show no single deterministic solution whereby the effects of this input are predictable, the fact is that this input appears to have a very significant impact. Exactly how this input will affect the operation of the system will depend upon a multiplicity of factors contained in the other inputs to the system and the environment in which the system operates.

The other inputs into the system under study will play a direct part in determining how the subordinate will react in his perception of the superior's motivation to achieve organizational goals. Another major determinant will be the environment in which the system is existing. These findings are supported by data from the primary research as well as findings in secondary research such as Stimulus-Response Theory and Lewin's Theory.

One of the environmental determinants of the system is the effect that the subordinate's position in the managerial hierarchy will have on his motivation. The results of the study point toward the idea that persons in high level management positions are more affected by motivation through appearing motivated than persons in low level management positions. However, the findings are such that it is most difficult to determine if the level of management is a dependent or independent variable. Because of this, any conclusions reached about this area of the system would be rather hypothetical in nature.

The process of the system was defined to be the subordinate's need to achieve organizational goals. The magnitude of this need will be determined by environmental and input factors. Among such environmental factors will be such things as the amount of personal need satisfaction of the individual. Those individuals with lower needs satisfied to a great degree will experience a greater urge to satisfy higher order needs, according to Maslow. The need to achieve organizational goals is a higher order need and will generally be stronger in those individuals with higher over-all need satisfaction. Also, according to McClelland those individuals with certain personal characteristics and cultural backgrounds will have higher achievement motivation. This is simply another way of saying that certain individuals have a greater need to achieve group goals which are culturally and environmentally determined.

The output of the system is the subordinate's motivation to achieve organizational goals. The determinants of the output are the input and process factors and all determinants governing their make-up. The major finding of this study supports the hypothesis that motivation through appearing motivated is an input that has a significant effect on the output of the system.

Chapter IV

SUMMARY AND CONCLUSIONS

I. OBJECTIVES AND FINDINGS OF THE STUDY

The purpose of the study has been to research a phenomenon which was defined in Chapter One as motivation through appearing motivated. This term was defined as meaning the extent to which a subordinate is motivated to achieve organizational goals by his perception of his immediate superior's motivation to achieve organizational goals. A secondary goal of this study has been to determine the extent to which the level of the managerial position of the subordinate influences his motivation to achieve organizational goals. As an aid to analysis of the problem, a systems approach was used. The output of the system was the subordinate's motivation to achieve organizational goals, and the process was defined to be those needs of the subordinate to achieve organizational goals. The inputs to the system were defined as being numerous, but the study focused on only one input. This input was the subordinate's perception of the superior's motivation to achieve organizational goals. With respect to the system, the purpose of the study was to determine if this input has a meaningful impact on the output of the system.

The purpose of this final chapter is to summarize the research findings, state their ramifications and implications,

and point out areas where further research may provide meaningful future contributions to management thought. This chapter is divided into three basic parts. In this first part, the findings of the study will be summarized with respect to secondary research, primary research and the relationship of research findings to the system. Following this section will be a section discussing ramifications and implications of the study for the practicing executive and the management academician. The final section will discuss several areas where future research efforts may prove to be fruitful. The discussion will now turn toward the findings of the study.

A. Secondary Research

The bulk of the secondary research was concerned with psychological concepts of human motivation and behavior patterns shaped by motivation. These concepts proved to be most useful when interpreting and analyzing data from the primary research experiment. A great deal of the secondary research effort was devoted to discussing the need hierarchy concept of motivated behavior. Often this theory is widely accepted in management thought due to its seemingly functional nature. However, an indepth look at the assumptions and qualifications held by Maslow and his proponents reveals this theory is not quite so deterministic and simple as it may appear to the casual observer. Nevertheless, need hierarchy theory is a useful tool if, for no other reason,

because it brings a certain degree of structure to the understanding of how human behavior is motivated.

Two other theories introduced in the secondary research were Lewin's theory of motivation and Stimulus-Response Theory. Lewin's Theory was an aid to the study of motivation due to its emphasis on the importance of the environment as a determinant of human motivation, and the interaction of the individual and his environment in determining the individual's motivation. In this particular study, the motivation of the superior as perceived by the subordinate is an environmental factor with respect to the subordinate. Stimulus-Response Theory provided a place wherein motivation may be placed in its proper perspective with-respect to all behavior. A stimulus, either internal or external creates an intervening variable (motivation) which in turn creates a behavioral response. In this particular study the stimulus under observation was a subordinate's perception of his immediate superior's motivation to achieve group goals. The response was a change in the subordinate's motivation to achieve group goals as a result of the stimulus.

Another concept covered was that of unconscious motivation which states that any individual cannot give accurate reasons for a great deal of his behavior, because he is totally unaware of many of his own motives. This concept provides great justification for using projective or disguised techniques for primary research studies in motivation.

Defense mechanisms, behavior resulting from frustration, were also discussed in the secondary research. Inasmuch as one can not study motivation but only the behavior from it, the concept of defense mechanisms is extremely important. When needs fail to be satisfied the resulting behavior is manifested in the form of these mechanisms. When reaching any conclusions from behavioral data one must carefully consider that a great deal of all human behavior is of this nature. For example, an individual who strives energetically to achieve organizational goals may be compensating for other goals in his life which he has failed to achieve.

The final area studied in the secondary research was that of achievement motivation. This related well to the study since it is in actuality a study in the achievement motivation of executives based upon how they perceive the achievement motivation of their immediate superiors.

B. Primary Research and Analysis

A primary research experiment was designed for purposes of gathering data from practicing executives. In the study two independent variables were defined. These were 1) the level of the superior's motivation to achieve organizational goals as perceived by the subordinate, and 2) the subordinate's position in the managerial hierarchy with respect to his being either a high level or low level manager. The dependent variable was defined to be the subordinate's motivation to achieve organizational goals.

The research methodology employed the use of fictional management cases as projective techniques for gathering primary research data. Six cases were written, three depicting a superior-subordinate relationship between high level executives and three depicting a superior-subordinate relationship between low level executives. Within the two sets of cases, the motivation of the superior was varied from high to average to poor. Each subject participating in the experiment was given one case to read. In all, sixty executives participated in the experiment with ten subjects reading each case. After reading a case, subjects answered a two-part data collection form. The first part of the form was a Thurstone Attitude Form in which subordinates quantitatively reflected how strongly they felt the motivation of the subordinate in each case would be. The second part of the form was an open-end questionnaire in which subjects were asked to briefly state any effects they felt the superior would have on the subordinate's motivation to achieve organizational goals. The assumption behind using a projective technique such as this is that when subjects are asked to interpret or predict a given situation they will project their own feelings, desires, and wishes into their interpretation of the situation.

The data was analyzed both quantitatively and qualitatively.

The Thurstone scale scores were processed using a two-factor, fixed effects, interactive analysis of variance

model. The answers to the open-end question were analyzed in light of the accompanying quantitative data from the subjects and the secondary research concepts previously discussed.

The results of analysis of variance computations indicated significant differences between levels of perceived superior motivation and levels of management. Both the level of motivation of the superior and the level of management of the subordinate's position appeared to significantly shape the motivational scores of subjects responding to the questionnaire. Statistical interaction between the two factors was insignificant. However, this finding was contradictory to the qualitative data gathered from the open-end question and should be skeptically viewed.

Highest motivational scores and most achievement-oriented verbal responses came from subjects who were assigned the high-level highly motivated superior case. The highly motivated low-level manager case responses showed the second highest scale scores and the verbal responses reflected high achievement imagery also. A most startling finding of the study was that persons with poorly motivated superior cases reflected higher scale scores and higher achievement-oriented responses than did persons who were assigned average motivated superior cases. The reasons given for a subordinate being highly motivated when his superior was poorly motivated were several. In the case of the high level subordinate, subjects felt the fact that he was a high level manager and the

opportunity to get the superior's job would motivate him strongly. In the low-level case, subjects felt either the subordinate would be highly motivated with hopes of getting the superior's job, or poorly motivated like the superior.

Responses to the average motivated superior cases were nebulous in nature. This was mainly because these cases were lacking in content. There was little or nothing in the cases to stimulate the involvement of the subjects.

The data from the primary research experiment supported both of the major hypotheses set forth, but failed to support both of the minor hypotheses. The failure of the experimental data to support the minor hypotheses may be due to the fact that subject involvement with the average motivated superior cases was poor.

C. The Relationship of Research Findings to the System

Both the primary and secondary research strongly support the idea that subordinate perception of superior motivation is a significant input factor in shaping the output of the system under study. It appears that when the superior is perceived by subordinates as being highly motivated, subordinates tend to identify with the superior, resulting in high motivation. However, identification will generally not follow when the superior is perceived as being poorly motivated. The subordinate who perceives his superior as poorly motivated will very often react with frustration and follow through by manifesting defense mechanisms such as

aggression or withdrawal. How the employee reacts will, of course, depend greatly on his personal characteristics.

The findings of the effects of managerial hierarchy on the input being studied should be accepted with reservation. Although the data from the experiment supported Major Hypothesis 2, the results may be due to a built in bias of the cases. Subject responses indicated that they felt high level managers would be highly motivated inasmuch as they had achieved that level of stature in the organization. This study sought to determine if management at the higher level was more conducive to higher motivation than management at the lower levels. The results of the data supported the hypothesis but the reasons for support are different from what was expected.

II. RAMIFICATIONS AND IMPLICATIONS

A. For Business

In essence, the research findings of this study support the hypotheses that motivation through appearing motivated is a meaningful method of partially determining the motivation of executives. It appears that goal oriented motivation of superiors, when perceived by subordinates as being high, is rather contagious. When a subordinate executive perceives that his boss is enthusiastic about the objectives of the group he tends to identify with the boss and emulate his behavior patterns with respect to motivation to achieve group goals.

The results of this study imply that subordinates will follow the motivational example set by their superiors when it is strongly positive. When the example set is strongly negative in nature, subordinates tend to become frustrated and their behavior patterns become defensive. How they will react depends upon their own personal make-up. Some will push on aggressively with hopes of moving into the superior's position, while others may choose to mentally withdraw from their job and show seeming total apathy. The results of the study are inconclusive as to the effect that an average motivated superior has on subordinates.

The main thing to be learned from all of this by a practicing executive should be neither startling nor surprising. This lesson is that whenever a man is being chosen to assume a position of leadership in an organization, one of the qualifications he should be evaluated on is the image he presents to others with respect to his motivation to achieve company goals. The man who presents a picture of zeal and enthusiasm will readily be identified with by subordinates, assuming his other qualifications are satisfactory. The result will be higher over-all organizational motivation and consequent higher productivity.

The potential costs of an executive who appears poorly motivated are staggering. If his subordinates choose to mentally withdraw from their jobs, the organization carries a massive amount of deadweight. One must also realize the possibility that if the subordinate withdraws and becomes

apathetic, his subordinates are also likely to follow suit. A chain reaction throughout the organization could ensue with massive damage to the organization.

Conversely, one must remember that a highly motivated superior may start a positive type of chain reaction throughout the organization. Motivational patterns are in essence determined by leadership and filter down the organizational structure. Thus, a final point to be learned by businessmen is that the higher the level of the executive's position the more important to the firm will be the way in which his motivation is perceived by his subordinates.

B. For Academia

It is the contention of the author that the function of a management academician is to provide information of the first order for executives to enable them to practice their profession with greater excellence. Therefore, those implications of the previous section will also be useful to the academician in carrying out his role.

In addition, this study implies that there perhaps exists a need to consider the concept of motivation through appearing motivated as a part of the theory of managerial motivation. Inasmuch as the study showed support that subordinate perception of superior motivation influences subordinate motivation, this implies that a relevant factor of subordinate motivation has been uncovered.

In addition to the findings of the study, the management theorist may find further interest in the technique used to

gather the primary research. This and other areas of interest to the scholar are covered subsequently in the following section.

III. SUGGESTED AREAS FOR ADDITIONAL RESEARCH

This study has been a unique one in two distinct aspects. First, the concept defined as motivation through appearing motivated was scientifically studied. In addition to the subject matter studied, the primary research methodology employed was also unique in concept. Although management cases, Thurstone scales and open-end questions are not unique concepts when each one is considered by itself, the employment of the three together is indeed a synthetically creative concept. The suggested areas for additional research center around the unique aspects of this study. The first areas discussed will pertain more to the techniques of the methodology and the final area will pertain more to the nature of the phenomenon which was studied.

A. The Projective Case Method

From the data gathered in this study, it appears that the use of management cases as a projective technique has utility and great potential for future primary research. The limiting factor in employing these cases is in their ability to arouse subject involvement. When subjects are able to find something in the case to arouse their involvement, projection and meaningful data subsequently follow. However, when interaction

is poor, there appears to be little involvement of the subjects with the case, and the data becomes meaningless.

As far as future research is concerned, the projective case method can be applied to researching any number of concepts in the behavioral area of management. The researcher must consider it as a tool or vehicle for gathering his data. However, he should always place paramount importance upon the ability of each case to involve the subjects.

There are several possibilities which if employed may increase subject involvement. Illustrating the cases is one alternative. Another possibility might be to make a sound movie where the case is acted out and reviewed by subjects rather than having them read it. A more economical method might be to have the case acted out and recorded on a tape recorder, and when the tape is played to subjects, show slides to illustrate events in the case. Any number of possibilities are available to the researcher who has the time and economic facilities to expand the projective case method. However, he should only employ these additional methods as a means to stimulate involvement in the case. If the acting or gadgetry becomes overdone, there is the possibility that subjects will become more involved in things other than the content of the case.

A final point about this type of projective method should be made. Psychologists often use their various projective techniques as a means to determine abnormalities in psychologically disturbed individuals. This method is much narrower

in scope and the author lays no claim to competency in the area of psychology. The assumptions of projective techniques were assumed as valid, and the cases were tailored to measure the phenomenon being studied. The only purpose of these cases was to involve persons in executive positions with a story to enable them to project their feelings about the story. From the data taken it appears that four of the six cases were successful.

B. Validity of the Qualitative and Quantitative Data

The primary research data taken from the cases appeared to give meaningful answers in four of the six cases used. The quantitative scale scores matched well with the verbal open-end answers in the cases in which subject involvement was high. It appears that the utilization of both types of data collection is highly complementary. The quantitative data gives good numeric response but is somewhat inflexible for verbal interpretation. The open-end question answers, on the other hand, are difficult to quantify, but provide a great deal of flexibility and room for interpretation. In those cases where subject involvement was good, the answers to the open-end question successfully told why the scale scores turned out to be what they were. In the cases where involvement was poor, the answers to the open-end question were the indicator that involvement was poor.

With respect to the data collection methodology there are several possible areas of research. A great deal of time

may be spent on refining the statements used in the Thurstone scale form to insure that each statement is symbolic of the level of motivation that it is intended to be. Another area of research would be to further investigate why the quantitative scores showed no interactive effects between levels of management and levels of perceived superior motivation. A simple way to validate this finding would be to administer the same cases and data collection techniques again and add another open-end question asking subjects how they feel the level of management will affect perception of superior motivation and subordinate motivation. Expansion of data collection techniques is another possible avenue for further research, and this is discussed in the subsequent section.

C. Widening the Sample Size and Scope

The sample of executives used in the primary research experiment did not constitute anything like a simple random sample. Therefore the results of the analysis of variance serve only as an indication and nothing like a conclusion. To choose a simple random sample of individuals occupying executive positions would be highly difficult if not impossible. However, it would be possible to administer this experiment to different individuals occupying various types of positions. This would either provide further support or perhaps shed new light on the findings of this study.

Another possible research project might be to administer the experiment to each individual personally, and after he

has completed the data collection form ask him if he can relate the case to any personal experiences he has had. This would be very similar to the type of analysis used by the Herzberg study on motivation. It would have the feature that scale scores and answers to open-end questions could then be related to personal backgrounds of individuals. This could lead to a whole new area of analysis. However, carrying out such an experiment is more easily described than done. It is the author's experience that most companies are highly reluctant to cooperate in experiments and highly suspicious that the privacy of their domain will be invaded.

D. Dependent or Independent Variables

A final area of research may be to further investigate the effects that the level of management of the subordinate has upon his motivation. In this study the level of management of the subordinate was treated as an independent variable. The results of the primary research showed that subjects felt subordinates in higher levels of management would be more significantly motivated than would subordinates at lower levels of management. However, answers to the open-end question indicated that subjects felt high level managers were in this position due to high motivation, rather than the level of the position determining the motivation of the executives. This result brings forth an interesting question worthy of future research. Are high level executives more motivated because of the level of their position, or is it

self-motivation which determines the level in the organization to which a manager will climb? Both variables, motivation and level of management, probably are partially dependent and independent variables with each having some effect upon the other. To what degree these variables are co-determinant and their interrelationship would make an interesting topic for further research.

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APPENDIX

- Appendix A - Cases Used in Primary Research Experiment
- Appendix B - Questionnaire Used in Primary Research Experiment
- Appendix C - Individual Thurstone Scale Scores and Open-end Responses Grouped by Cases
- Appendix D - Computation of Analysis of Variance of Thurstone Scale Scores

APPENDIX A

CASES USED IN PRIMARY RESEARCH EXPERIMENT

Metropolitan Electronics, Inc. (1A)

Metropolitan Electronics, Inc., is located ten miles outside of a large midwestern city. The company is one of the major producers of electronic equipment for the United States Department of Defense. About 98 per cent of Metropolitan's revenue results from Department of Defense contracts. Metropolitan employs approximately 9,000 persons and over 6,000 of these are located in the production division of the company. For the past ten years gross revenue has averaged 100 million dollars per year.

The vice-president in charge of production is Bob Brown. Bob came to Metropolitan and assumed the duties of vice-president just one month ago. He is thirty-four years of age, married and has two children. Before coming to Metropolitan, Bob was an assistant to the vice-president of production of another large electronics firm. Bob's duties entail the scheduling and long-range planning of the production activities of the company. He reports directly to the company president, Mr. Allen Anderson. Because of the broad scope of Bob's responsibilities, he must have a close and satisfactory working relationship with Anderson.

Allen Anderson is a company president who lives with his job twenty-four hours a day. Practically all of his thoughts center around ways in which Metropolitan can progress to become a more productive and more pleasant organization. Under his leadership the company has been able to meet and surpass its major goals. Mr. Anderson is a highly motivated and extremely dedicated president. Through his efforts last year, Metropolitan was awarded a 20 million dollar government contract which appeared to be beyond hope of landing, as far as most observers were concerned. Last year the National Association of Corporation Presidents selected Anderson as one of the top five corporation presidents in the United States. A prominent member of Metropolitan's Board of Directors is pondering the following question:

What effect will a man such as Anderson have on the attitudes, actions, and development of the new vice-president, Bob Brown?

Metropolitan Electronics, Inc. (1B)

Metropolitan Electronics, Inc., is located ten miles outside of a large midwestern city. The company is one of the major producers of electronic equipment for the United States Department of Defense. About 98 per cent of Metropolitan's revenue results from Department of Defense contracts. Metropolitan employs approximately 9,000 persons and over 6,000 of these are located in the production division of the company. For the past ten years gross revenue has averaged 100 million dollars per year.

The vice-president in charge of production is Bob Brown. Bob came to Metropolitan and assumed the duties of vice-president just one month ago. He is thirty-four years of age, married and has two children. Before coming to Metropolitan, Bob was an assistant to the vice-president of production of another large electronics firm. Bob's duties entail the scheduling and long-range planning of the production activities of the company. He reports directly to the company president, Mr. Allen Anderson. Because of the broad scope of Bob's responsibilities, he must have a close and satisfactory working relationship with Anderson.

One could best describe Allen Anderson as a company president who performs his functions satisfactorily. He appears to be neither highly motivated nor apathetic about his role at Metropolitan Electronics. He is stable, hard-working, and under his leadership the company has made slow, but steady progress. A prominent member of Metropolitan's Board of Directors is pondering the following question:

What effect will a man such as Anderson have on the attitudes, actions, and development of the new vice-president, Bob Brown?

Metropolitan Electronics, Inc. (1C)

Metropolitan Electronics, Inc., is located ten miles outside of a large midwestern city. The company is one of the major producers of electronic equipment for the United States Department of Defense. About 98 per cent of Metropolitan's revenue results from Department of Defense contracts. Metropolitan employs approximately 9,000 persons and over 6,000 of these are located in the production division of the company. For the past ten years gross revenue has averaged 100 million dollars per year.

The vice-president in charge of production is Bob Brown. Bob came to Metropolitan and assumed the duties of vice-president just one month ago. He is thirty-four years of age, married and has two children. Before coming to Metropolitan, Bob was an assistant to the vice-president of production of another large electronics firm. Bob's duties entail the scheduling and long-range planning of the production activities of the company. He reports directly to the company president, Mr. Allen Anderson. Because of the broad scope of Bob's responsibilities, he must have a close and satisfactory working relationship with Anderson.

If one had to describe Anderson's attitude toward his job in one word, that word would be apathy. Anderson displays all the attributes of a company president who is simply waiting for retirement to come. He appears to be totally unconcerned about whether or not the company attains its objectives. In the past year, Anderson's apathy caused Metropolitan to lose out on the acquisition of a 10 million dollar government contract which would have been awarded to Metropolitan simply for the asking. A prominent member of the Metropolitan Board of Directors has become aware of the problem. The Board member is pondering the following question:

What effect will a man such as Anderson have on the attitudes, actions, and development of the new vice-president, Bob Brown?

Metropolitan Electronics, Inc. (IIA)

Metropolitan Electronics, Inc., is located ten miles outside of a large midwestern city. The company is one of the major producers of electronic equipment for the United States Department of Defense. About 98 per cent of Metropolitan's revenue results from Department of Defense contracts. Metropolitan employs approximately 9,000 persons and over 6,000 of these are located in the production division of the company. For the past ten years gross revenue has averaged 100 million dollars per year.

One of the production-line foremen at Metropolitan is Bob Brown. Bob came to Metropolitan and assumed the duties of production foreman just one month ago. He is 34 years of age, married, and has two children. Before coming to Metropolitan, Bob was a production-line worker for another large electronics firm. Bob's duties entail the supervision of a production line which assembles and wires highly technical electronic equipment. He reports directly to the production superintendent, Allen Anderson. Due to the nature of Bob's responsibility, he must have a close and satisfactory working relationship with Anderson.

Allen Anderson is a production superintendent who lives with his job 24 hours a day. Practically all of his thoughts center around ways in which his department can progress to become a more productive and pleasant place to work. Under his leadership, Anderson's production department has been able to meet and surpass all major goals which were set for it. Mr. Anderson is highly motivated and extremely dedicated toward his job. His department, mainly due to his efforts, was chosen last year as the most outstanding of Metropolitan's 25 production departments. Anderson's boss is pondering the following question:

What effect will a man such as Anderson have on the attitudes, actions, and development of the new production-line foreman, Bob Brown?

Metropolitan Electronics, Inc. (IIB)

Metropolitan Electronics, Inc., is located ten miles outside of a large midwestern city. The company is one of the major producers of electronic equipment for the United States Department of Defense. About 98 per cent of Metropolitan's revenue results from Department of Defense contracts. Metropolitan employs approximately 9,000 persons and over 6,000 of these are located in the production division of the company. For the past ten years gross revenue has averaged 100 million dollars per year.

One of the production-line foremen at Metropolitan is Bob Brown. Bob came to Metropolitan and assumed the duties of production foreman just one month ago. He is 34 years of age, married, and has two children. Before coming to Metropolitan, Bob was a production-line worker for another large electronics firm. Bob's duties entail the supervision of a production line which assembles and wires highly technical electronic equipment. He reports directly to the production superintendent, Allen Anderson. Due to the nature of Bob's responsibility, he must have a close and satisfactory working relationship with Anderson.

One could best describe Allen Anderson as a production superintendent who performs his functions satisfactorily. He appears to be neither highly motivated nor apathetic about his role at Metropolitan Electronics. He is stable, hard-working, and under his leadership, his production departments have made slow, but steady, progress. Anderson's boss is pondering the following question:

What effect will a man such as Anderson have on the attitudes, actions, and development of the new production-line foreman, Bob Brown?

Metropolitan Electronics, Inc. (IIC)

Metropolitan Electronics, Inc., is located ten miles outside of a large midwestern city. The company is one of the major producers of electronic equipment for the United States Department of Defense. About 98 per cent of Metropolitan's revenue results from Department of Defense contracts. Metropolitan employs approximately 9,000 persons and over 6,000 of these are located in the production division of the company. For the past ten years, gross revenue has averaged 100 million dollars per year.

One of the production-line foremen at Metropolitan is Bob Brown. Bob came to Metropolitan and assumed the duties of production foreman just one month ago. He is 34 years of age, married, and has two children. Before coming to Metropolitan, Bob was a production-line worker for another large electronics firm. Bob's duties entail the supervision of a production line which assembles and wires highly technical electronic equipment. He reports directly to the production superintendent, Allen Anderson. Due to the nature of Bob's responsibility, he must have a close and satisfactory working relationship with Anderson.

If one had to describe Anderson's attitude toward his job in one word, that word would be apathy. Anderson displays all the attributes of a man who is simply waiting for retirement to come. He appears to be totally unconcerned about whether or not his department attains its objectives. In the past year, Anderson's apathy and careless performing of his functions has resulted in numerous bottlenecks and consequent excessive production costs. Anderson's boss has become aware of the situation and is pondering the following question:

What effect will a man such as Anderson have on the attitudes, actions, and development of the new production-line foreman, Bob Brown?

APPENDIX B

QUESTIONNAIRE USED IN PRIMARY
RESEARCH EXPERIMENT

QUESTIONNAIRE

We are interested in your view of the motivation of the subordinate in the above case. Remember, Bob Brown is the subordinate and Allen Anderson is the superior. Please agree or disagree with the following statements concerning Bob Brown's job motivation. If you wish to refer back to the case or read it again, please feel free to do so.

1. Bob Brown lets hardship hamper him from doing his job more than the average person would. ☐ Agree ☐ Don't Agree
2. His feelings of company responsibility are slightly stronger than the average employee. ☐ Agree ☐ Don't Agree
3. This subordinate's overall job performance is slightly on the mediocre side. ☐ Agree ☐ Don't Agree
4. He never thinks about his job. ☐ Agree ☐ Don't Agree
5. Bob Brown's overall job performance is poor. ☐ Agree ☐ Don't Agree
6. He rarely gets the job done. ☐ Agree ☐ Don't Agree
7. Bob Brown feels he contributes less than the average employee toward helping the company achieve its goals. ☐ Agree ☐ Don't Agree
8. Any hardship greatly hampers him in doing his job. ☐ Agree ☐ Don't Agree
9. This subordinate wants to see the company achieve its objectives about as much as the average employee. ☐ Agree ☐ Don't Agree
10. Bob Brown is leaving the company immediately, because he can't stand working there any longer. ☐ Agree ☐ Don't Agree
11. His job satisfaction is about average, and he hasn't given any serious thought to changing jobs. ☐ Agree ☐ Don't Agree
12. His feelings of company responsibility are slightly less than average. ☐ Agree ☐ Don't Agree

13. Bob Brown spends more time thinking about his job than most employees do. _____ Agree _____ Don't Agree
14. His only desire is to see that the company achieves its objectives. _____ Agree _____ Don't Agree
15. This subordinate is hardly ever thorough in doing his job. _____ Agree _____ Don't Agree
16. More often than not, he does his job in the face of adversity. _____ Agree _____ Don't Agree
17. Bob Brown feels a tremendous responsibility to the company. _____ Agree _____ Don't Agree
18. He feels his responsibility to the company is the greatest responsibility he has. _____ Agree _____ Don't Agree
19. This subordinate feels he makes meaningful and great contributions to the attainment of company goals. _____ Agree _____ Don't Agree
20. His overall job performance is slightly better than average. _____ Agree _____ Don't Agree
21. Bob Brown can be counted on to do his job even in the face of great hardship. _____ Agree _____ Don't Agree
22. He goes to great lengths to be certain that his job is done thoroughly. _____ Agree _____ Don't Agree

Explain briefly in your own words any effects you feel Allen Anderson will have on Bob Brown's motivation to do his job.

APPENDIX C

INDIVIDUAL THURSTONE SCALE SCORES AND
OPEN-END RESPONSES GROUPED BY CASES

CASE 1-A

(1) Thurstone Score 20

He will be inspired by Anderson's example. Brown has to have much on the ball to get this position at age 34, and he will be striving to make good. In about 4 years he will be looking for a bigger and better job.

(2) Thurstone Score 19

I think Anderson will have a good influence on Bob. Any man who devotes his time to his business and seeks to promote a man from assistant V.P. to V.P. is giving him the job because he is highly qualified and it will help him to succeed.

(3) Thurstone Score 18

Mr. Brown has assumed the responsibility and title of vice-president. He reports directly to a highly motivated superior which should inspire Mr. Brown to perform to the best of his ability.

(4) Thurstone Score 20

Brown will be highly motivated by Anderson. Brown is successful because of his attitude and self-motivation. Anderson should complement Brown's development and the interaction of personalities should prove beneficial to both and to the corporation. There is no reason to expect unhealthy competition to result.

(5) Thurstone Score 21

No comment.

(6) Thurstone Score 19

Leadership and organizational trends start at the top. Anderson will inspire and motivate Brown.

(7) Thurstone Score 18

Anderson's actions will affect Brown. Brown must be highly motivated to be a V.P., and Anderson's motivation can only motivate Brown more. Look for Brown to be as good of a V.P. as Anderson is a president.

(8) Thurstone Score 22

Brown is a young vice-president and must be highly motivated. He will feel at home working with a fire-ball like Anderson. The two should get along famously and make a good team.

(9) Thurstone Score 20

I think Brown will follow Anderson's example and be highly motivated.

(10) Thurstone Score 19

A young vice president like Brown will react positively towards Anderson's high motivation. Nothing motivates a follower like a highly motivated leader.

CASE 1-B

(1) Thurstone Score 14

He could tend to dampen Brown's enthusiasm which he apparently has if he is V.P. at age 34.

(2) Thurstone Score 13

When two or more individuals have failed to achieve a high degree of synergy, then attempts to interact with each other will nearly always be mentally frustrating and reductive.

(3) Thurstone Score 13

No comment.

(4) Thurstone Score 15

No effect.

(5) Thurstone Score 17

The effect that Anderson has on Brown will depend on Brown's personality.

(6) Thurstone Score 13

It sounds as though Anderson would be rather dull to work for. Brown will either follow his example and be dull or be unaffected and work hard as he must have done in the past. A 34 year old V.P. must be highly motivated.

(7) Thurstone Score 18

Brown will be highly motivated.

(8) Thurstone Score 14

There really isn't enough information given about Brown to tell how he will react. The best one can say is that it will depend on his psychological make-up.

(9) Thurstone Score 12

Anderson seems as though he is a rather bland individual. A man like this could cool the enthusiasm of a young vice president.

(10) Thurstone Score 18

Brown is a very young and very motivated vice-president. I see no reason for him to change his motivation due to Anderson.

CASE I-C

- (1) Thurstone Score 18
Would probably produce mental depressions and frustration, but could motivate him to greater effort to succeed in his job for his own benefit and that of the company.
- (2) Thurstone Score 17
Anderson will affect Brown's motivation little, if any. Brown has moved ahead very fast to become V.P. at age 34. He apparently has enough ambition, both personal and company oriented, that he will be motivated in spite of Anderson.
- (3) Thurstone Score 16
A 34 year old vice-president is highly self-motivated. I don't see Anderson changing Brown's motivation one way or another.
- (4) Thurstone Score 18
If Brown is smart enough to be vice president at age 34, he won't let a bad example stop him from doing his job well. Brown will keep pushing hard with the possibility of someday becoming president of this or another company.
- (5) Thurstone Score 20
Brown sees that this is his big chance. With an apathetic president he will be highly motivated with the thought of taking the job away from Anderson.
- (6) Thurstone Score 17
Brown will find that a man such as Anderson is very frustrating to work for. However, he is a hard worker, self-motivated and will push on doing the best that he can.
- (7) Thurstone Score 15
Brown may soon determine that Anderson is so deeply entrenched that he will be president for some time. Under this condition, Brown may have such difficulty working with him that he may endanger his career and lose personal interest in his work.
- (8) Thurstone Score 20
It may well be that Anderson will delegate a great deal of authority to Brown if he is apathetic. If so Brown could in effect be the strong man in the organization. This would place him in a position to pull off a power play for the president's job. If such happens, Brown will be highly motivated.

(9) Thurstone Score 16

Brown may perceive that he has a golden opportunity to move into the president's job (or some other higher position). This would be due to Anderson's general apathy and incompetence whereby Brown believes that the Board will not long tolerate such performance and will look for a new president. If he believes this, he can be motivated to do an outstanding job, in spite of some difficulties with Anderson, hoping to advance himself and the company.

(10) Thurstone Score 17

Brown is going to have to get a feel for his position and potential before he will know just how to proceed.

CASE II-A

(1) Thurstone Score 18

Brown has changed from "worker" to "supervision." He will exert all efforts immediately to become a member of the new team and to try to uphold the goal of Anderson of keeping his department as the best one.

(2) Thurstone Score 17

Anderson will have to guide and counsel Brown in company procedures and more directly in Anderson's procedures. Brown will change any "attitudes" he has so they will approximate the same as Anderson's, within his own supervisory jurisdictions.

(3) Thurstone Score 18

Evidently, from Anderson's past performance, he will be able to communicate the needs of the company to Bob Brown. Whether Brown returns this communication remains to be seen, since he has been there only one month. Brown should fit in if he was successful, as implied in the brief, at his other position.

(4) Thurstone Score 19

Based on Anderson's past successes (impossible without generating motivation from subordinates) he will have a favorable effect on Brown's development.

(5) Thurstone Score 17

I think Brown will be motivated simply by being part of such a winning "team." Anderson's example should have a very positive effect.

(6) Thurstone Score 20

Anderson knows how to motivate his workers and subordinates. If he did not he couldn't be so successful. He will motivate Brown to greater efforts like all the rest.

- (7) Thurstone Score 20
Anderson has set an ideal example for his subordinates to follow. Brown will be inspired and motivated by Anderson's achievements.
- (8) Thurstone Score 17
Brown will be well motivated for several reasons. This is his first crack at a managerial position, and he will want to do well. Another reason he will be motivated is that he will realize that he is responsible for motivating a top-notch production department and he realizes this will take a great deal of work. Finally, a man such as Anderson can only have an inspiring effect on Brown.
- (9) Thurstone Score 16
Brown can learn a great deal from Anderson's success. Anderson will probably be promoted soon and move on to greater responsibilities. If he works hard with Anderson, Brown can move up with him. How motivated he will be will depend greatly upon his personality.
- (10) Thurstone Score 16
Anderson's devotion to the company should set an ideal example for Brown to follow. Since workers tend to identify with their leaders, I feel Brown will be highly motivated.

CASE II-B

- (1) Thurstone Score 13
It would be disturbing but the ultimate effect would depend upon Bob's personality.
- (2) Thurstone Score 12
No adverse effects.
- (3) Thurstone Score 14
Brown's past work record will be the best indication of how well he will be motivated. It's difficult from the information given to say just how Anderson will effect Brown.
- (4) Thurstone Score 13
Nebulous.
- (5) Thurstone Score 10
Brown will probably not do too well since this is his first management job. Anderson will neither inspire nor discourage him.

- (6) Thurstone Score 11
How well Bob Brown does depends much more on him than it does on Allen Anderson. I see Anderson having little, if any, effects on Brown's motivation.
- (7) Thurstone Score 12
Anderson is dull, Brown is dull, and the job is dull. I don't see how anybody can get motivated!
- (8) Thurstone Score 13
It's hard to say if Anderson will change Bob's motivation any. Probably not.
- (9) Thurstone Score 15
The lack of information in the case makes it difficult to say anything about anyone.
- (10) Thurstone Score 13
Brown will be an average foreman. He will do his job and Anderson will have little effect, if any, on his motivation.

CASE II-C

- (1) Thurstone Score 9
Anderson will eventually frustrate Brown and after Brown is sure of Anderson's apathy he will either quit or go along with the boss. He has been at Metro too short a time to jump a job that gave him the foreman status. After 6 months, however, if Anderson is still around, look for Brown to leave for a foreman's job with another company.
- (2) Thurstone Score 19
I think in spite of Anderson's lack of motivating Brown that Brown could still do his job outstandingly, possibly with the thought in mind that he could one day have Anderson's job if he proves himself.
- (3) Thurstone Score 12
Anderson's lack of concern will be contagious to Brown. Brown will feel that if the boss can get away with it, he can get away with it.
- (4) Thurstone Score 11
I don't expect Bob Brown to be very ambitious. A guy like Anderson who doesn't do much, won't require much from his subordinates.
- (5) Thurstone Score 16
This is Brown's first crack at a foreman's job. He will want to do his best and Anderson's apathy won't stop him. If Anderson is really bad, Brown may possibly take his job if he works hard.

(6) Thurstone Score 12

Brown will probably not care about his job. If he is concerned, he could get terribly frustrated working for a guy like Anderson. So, why should he worry?

(7) Thurstone Score 8

I feel that Brown will tend to follow the example his boss sets. Since this is his first supervisory job, he may feel that all supervisors are like Anderson. He will probably try to follow this role and be apathetic.

(8) Thurstone Score 10

If Brown is highly motivated he will have a very unhappy time at Metropolitan and probably quit. However, I don't feel he will be highly motivated.

(9) Thurstone Score 17

By working hard, Brown can earn a quick promotion by getting Anderson's job from him. Because of this he, Brown, will be highly motivated.

(10) Thurstone Score 15

Brown is probably well motivated since he is new on the job. Anderson will probably dampen his spirit somewhat, but he will continue to press on.

APPENDIX D

COMPUTATION OF ANALYSIS OF VARIANCE
OF THURSTONE SCALE SCORES¹

¹The notation and procedure used herein was adapted from: Freund, John E., Livermore, Paul E., and Miller, Irwin, Manual of Experimental Statistics, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1960, pp. 62-69.

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|--|--|--|---|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|----------------------|---------------------------|--|--|---|----------------|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|----------------------|---------------------------|--|--|---|----------------|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|----------------------|---------------------------|--|---|
| <div>CASE 1-A</div> <table><tr><td>X</td><td>X²</td></tr><tr><td>20</td><td>400</td></tr><tr><td>19</td><td>361</td></tr><tr><td>18</td><td>324</td></tr><tr><td>20</td><td>400</td></tr><tr><td>21</td><td>441</td></tr><tr><td>19</td><td>361</td></tr><tr><td>18</td><td>324</td></tr><tr><td>22</td><td>484</td></tr><tr><td>20</td><td>400</td></tr><tr><td>19</td><td>361</td></tr><tr><td>X=196</td><td>X²=3856</td></tr><tr><td colspan="2">196² = 38,416</td></tr></table> | X | X ² | 20 | 400 | 19 | 361 | 18 | 324 | 20 | 400 | 21 | 441 | 19 | 361 | 18 | 324 | 22 | 484 | 20 | 400 | 19 | 361 | X=196 | X ² =3856 | 196 ² = 38,416 | | <div>CASE 1-B</div> <table><tr><td>X</td><td>X²</td></tr><tr><td>14</td><td>196</td></tr><tr><td>13</td><td>169</td></tr><tr><td>13</td><td>169</td></tr><tr><td>15</td><td>225</td></tr><tr><td>17</td><td>289</td></tr><tr><td>13</td><td>169</td></tr><tr><td>18</td><td>324</td></tr><tr><td>14</td><td>196</td></tr><tr><td>12</td><td>144</td></tr><tr><td>18</td><td>324</td></tr><tr><td>X=147</td><td>X²=2205</td></tr><tr><td colspan="2">147² = 21,609</td></tr></table> | X | X ² | 14 | 196 | 13 | 169 | 13 | 169 | 15 | 225 | 17 | 289 | 13 | 169 | 18 | 324 | 14 | 196 | 12 | 144 | 18 | 324 | X=147 | X ² =2205 | 147 ² = 21,609 | | <div>CASE 1-C</div> <table><tr><td>X</td><td>X²</td></tr><tr><td>18</td><td>324</td></tr><tr><td>17</td><td>289</td></tr><tr><td>16</td><td>256</td></tr><tr><td>18</td><td>324</td></tr><tr><td>20</td><td>400</td></tr><tr><td>17</td><td>289</td></tr><tr><td>15</td><td>225</td></tr><tr><td>20</td><td>400</td></tr><tr><td>16</td><td>256</td></tr><tr><td>17</td><td>289</td></tr><tr><td>X=174</td><td>X²=3052</td></tr><tr><td colspan="2">174² = 30,276</td></tr></table> | X | X ² | 18 | 324 | 17 | 289 | 16 | 256 | 18 | 324 | 20 | 400 | 17 | 289 | 15 | 225 | 20 | 400 | 16 | 256 | 17 | 289 | X=174 | X ² =3052 | 174 ² = 30,276 | | <div>X = 517</div> <div>517² = 267,289</div> |
| X | X ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 441 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X=196 | X ² =3856 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 196 ² = 38,416 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 196 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 225 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 196 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 144 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X=147 | X ² =2205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 147 ² = 21,609 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 225 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X=174 | X ² =3052 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 174 ² = 30,276 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>CASE 2-A</div> <table><tr><td>X</td><td>X²</td></tr><tr><td>18</td><td>324</td></tr><tr><td>17</td><td>289</td></tr><tr><td>18</td><td>324</td></tr><tr><td>19</td><td>361</td></tr><tr><td>17</td><td>289</td></tr><tr><td>20</td><td>400</td></tr><tr><td>20</td><td>400</td></tr><tr><td>17</td><td>289</td></tr><tr><td>16</td><td>256</td></tr><tr><td>16</td><td>256</td></tr><tr><td>X=178</td><td>X²=3185</td></tr><tr><td colspan="2">178² = 31,684</td></tr></table> | X | X ² | 18 | 324 | 17 | 289 | 18 | 324 | 19 | 361 | 17 | 289 | 20 | 400 | 20 | 400 | 17 | 289 | 16 | 256 | 16 | 256 | X=178 | X ² =3185 | 178 ² = 31,684 | | <div>CASE 2-B</div> <table><tr><td>X</td><td>X²</td></tr><tr><td>13</td><td>169</td></tr><tr><td>12</td><td>144</td></tr><tr><td>14</td><td>196</td></tr><tr><td>13</td><td>169</td></tr><tr><td>10</td><td>100</td></tr><tr><td>11</td><td>121</td></tr><tr><td>12</td><td>144</td></tr><tr><td>13</td><td>169</td></tr><tr><td>15</td><td>225</td></tr><tr><td>13</td><td>169</td></tr><tr><td>X=126</td><td>X²=1606</td></tr><tr><td colspan="2">126² = 15,876</td></tr></table> | X | X ² | 13 | 169 | 12 | 144 | 14 | 196 | 13 | 169 | 10 | 100 | 11 | 121 | 12 | 144 | 13 | 169 | 15 | 225 | 13 | 169 | X=126 | X ² =1606 | 126 ² = 15,876 | | <div>CASE 2-C</div> <table><tr><td>X</td><td>X²</td></tr><tr><td>9</td><td>81</td></tr><tr><td>19</td><td>361</td></tr><tr><td>12</td><td>144</td></tr><tr><td>11</td><td>121</td></tr><tr><td>16</td><td>256</td></tr><tr><td>12</td><td>144</td></tr><tr><td>8</td><td>64</td></tr><tr><td>10</td><td>100</td></tr><tr><td>17</td><td>289</td></tr><tr><td>15</td><td>225</td></tr><tr><td>X=129</td><td>X²=1785</td></tr><tr><td colspan="2">129² = 16,641</td></tr></table> | X | X ² | 9 | 81 | 19 | 361 | 12 | 144 | 11 | 121 | 16 | 256 | 12 | 144 | 8 | 64 | 10 | 100 | 17 | 289 | 15 | 225 | X=129 | X ² =1785 | 129 ² = 16,641 | | <div>X = 433</div> <div>433² = 187,489</div> |
| X | X ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X=178 | X ² =3185 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 178 ² = 31,684 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 144 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 196 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 121 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 144 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 225 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X=126 | X ² =1606 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 ² = 15,876 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 144 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 121 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 144 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 289 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 225 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X=129 | X ² =1785 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 129 ² = 16,641 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>X = 374</div> <div>374² = 139,876</div> | <div>X = 273</div> <div>273² = 74,529</div> | <div>X = 303</div> <div>303² = 91,809</div> | <div>T = 950</div> <div>950² = 902,500</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

$$C = \frac{902,500}{60} = 15,042$$

$$\text{SSA} = \frac{267,289 + 187,489}{30} - 15,042 = 117$$

(rows)

$$\text{SSB} = \frac{139,876 + 74,529 + 91,809}{20} - 15,042 = 269$$

(columns)

$$\text{SSM} = \frac{38,416 + 21,609 + 30,276 + 31,684 + 15,876 + 16,641}{10} - 15,042 = 408$$

$$\text{SST} = 15,689 - 15,042 = 647$$

$$\text{SSI} = 408 - 269 - 117 = 22$$

$$\text{SSE} = 647 - 408 = 239$$

$$\text{MSA} = \frac{117}{1} = 117$$

$$\text{MSB} = \frac{269}{2} = 134.5$$

$$\text{MSI} = \frac{22}{2} = 11$$

$$\text{MSE} = \frac{239}{54} = 4.43$$

$$F_A = \frac{\text{MSA}}{\text{MSE}} = \frac{117}{4.43} = 26.41$$

Significant at .05 and .01 levels

$$F_B = \frac{\text{MSB}}{\text{MSE}} = \frac{134.5}{4.43} = 30.36$$

Significant at .05 and .01 levels

$$F_I = \frac{\text{MSI}}{\text{MSE}} = \frac{11}{4.43} = 2.48$$

Not significant at .05 and .01 levels

VITA

Maurice Michael LeBoeuf, son of Maurice Paul LeBoeuf, Jr. and Winifred Fatherrel LeBoeuf, was born in New Orleans, Louisiana, on February 27, 1942. After spending the majority of the first six years of his life in New Orleans, his family moved to Asheville, North Carolina, where he lived for six years and attended elementary school. After living one year in Miami, Florida, he returned to New Orleans, attending high school there and graduating in 1961 from Alcee Fortier Senior High School. In September, 1961, he entered Louisiana State University in Baton Rouge, where he has been a full time student for the past eight academic years. Degrees awarded to him are a Bachelor of Science Degree in Industrial Management, conferred in January, 1966, and a Master of Business Administration Degree, conferred in May, 1967. For the past year he has served as a teaching assistant in the Department of Accounting, teaching an undergraduate level course in business data processing. Presently, he is a candidate for the degree of Doctor of Philosophy in the Department of Management and Marketing.

EXAMINATION AND THESIS REPORT

Candidate: Maurice Michael LeBoeuf

Major Field: Management

Title of Thesis: Subordinate Perception of Superior Motivation and
Level of Management as Determinants of Subordinate
Motivation: A Systems Approach

Approved:

Bill R. Darden
Major Professor and Chairman

R. D. Anderson
Dean of the Graduate School

EXAMINING COMMITTEE:

Eugene C. McCann
Raymond W. Leiker
Fritz A. W. Cameron
Vincent E. Conybeare

Date of Examination:

May 14, 1969